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The Man Young at Fifty

CONSERVATION OF MIDDLE AGE.

Occupations Suitable for Amusement or Recreation in Those at the Half-Way Station of Life.

J. MADISON TAYLOR, A.B., M.D.,

PROFESSOR OF APPLIED THERAPEUTICS, TEMPLE UNIVERSITY, MEDICAL DEPT.,

Philadelphia, Pa.

Man is only happy and can only be healthy through his chosen occupations; mere amusements never suffice.

Alternation of work and play is such an instinctive demand; it constitutes an organic need. Not only should this be supplied by means of holidays, vacations and changes of scene, but equally by shifting the nature and direction of energy output while devoting ample time and attention to one's avowed craft, chosen industry, profession or vocation. All work and no play is not only dulling to the wits but killing to the finer faculties; likewise it goes far toward breaking down the most puissant constitution. Play every one must have; perhaps it is more necessary for those of the middle years because they have formed habits of steady application which lure them nearer to the danger line of stress than for one in the heyday of early adulthood. Relief from benumbing toil need not be idleness. It is, indeed, *far better to change the direction rather than the degree of energizing,* and to secure greatest advantage the respite may need only be a daily compensation, or at least a relief of fixed attention, oftentimes imperative, during work.

Any number of supplemental or side occupations offer themselves to choose from, capable of meeting all needs. Then there are hobbies, less useful perhaps, but just as salutory. A hobby is the pursuit of a worthy aim, a personal bent, a healthy inclination, or mere avidity for some wholesome outlet to one's tastes, or industries suitable to serve as an offset to such extra currents of energy as are not expended upon one's chosen occupations.

There are superior beings who scorn "such a waste of time"; who take a pride in, or "acquire merit" by, sticking to their treadmill grind in and out of season. These exalted beings do survive, often to a surprising old age in spite of their folly. At the best, however, they are drudges and killjoys. Under no circumstances, and by no self-persuasion, can such abnormal delinquencies be commended or justified.

All middle-aged citizens should take counsel with themselves as to what best suits their tastes or circumstances in the way of accessory occupations.

Financial considerations should not be permitted to discourage over strongly for two reasons: (1) The hobby is worth much in improving one's capacity for sustained endurance; it oftentimes enhances the quality and amount of the product. Also: (2) Many admirable hobbies can be made to pay handsomely, in and by themselves. (3) Anyhow, you and I deserve all the innocent fun we can get out of our working hours. By using as much intelligence with, or in, pursuit of our hobbies as we do in our business, we need make no serious sacrifices; indeed, we will thereby win not only our own approbation, but an increase in working efficiency.

It is essential to secure relief from long-fixed attention and continuity of stresses in order to preserve one's capacities for enjoyment, for work, and thereby add not only length of days, but fulfill important self-obligations. Nor is this wholly a selfish consideration.

Duty to one's fellows renders such a course necessary. Not only so, but it is of utmost value in preserving organic integrity, in widening the scope of activities along agreeable lines, provided the effort required does not become itself an additional burden but rather a new and healthy outlet for energies. Nor need one's regular occupation suffer. This objection is often urged to what are scornfully termed "fads," they are wholesome distractions and hobbies.

Many forms of play industry offer from which to choose. In the remarks now to be made a few will be briefly mentioned. Others will occur to those for whom those offered fail to attract. Some middle-aged distractions or changes of interest may be carried on systematically and profitably part of the time while devoting the residue of working energies to established business or regular occupation. Or they may replace them with advantage. Many can be made to pay, be a source of sufficient livelihood. For example, in the book, "The Fat of the Land,"

the author, a physician in active practice, found himself at about fifty years, suffering in health, and he determined to regain it. So he bought a run-down farm not far from his office, abandoned his professional work, devoted his energies and his trained intelligence to bringing his farm to a high degree of productivity, regained his vigor in a short time and made such a good thing of his new enterprise as to be well able to give up his professional work. Whether it be necessary to make a radical change depends on a number of factors; each can determine for himself.

Another excellent hobby which in my experience has often been made to result in amassing a handsome capital is philitalism (collecting postage stamps); also numismatics (coin collecting); ceramics (pottery). So also the collecting of objects, specimens of the graphic arts, etchings, engravings, paintings, any of which may increase in value if judiciously purchased. Archeologic objects are often fairly profitable, enough to make the quest worth while. I know a professional man who buys historic sites and often these increase notably in value. Another unusual line of interest I have known to be made to carry itself, at least.

A friend of mine, a poor professor, was particularly fond of riding. He could not afford to indulge his taste in high-class horseflesh, so he adopted the plan of buying green horses, breaking and training them to the saddle and then selling them at an advanced price. He was thus able always to be well mounted and turned a pretty penny on the side.

Each one is free to make his own choice and change it on occasion, if one does not satisfy. The main point for any one to decide is whether his or her health is suffering sufficiently to render such a sacrifice desirable. If so, there should be no hesitation or delay in taking the better course and sticking to it. Long before any serious inroads are made on one's assets in health or working capacities, as maturity is approached it is the part of wisdom to ease up on those stresses from which all earnest workers must come to suffer.

No working capital is comparable to full capacity for sustained exertion. How to judge of one's dynamic status at any given time is to avail oneself of the plan (suggested by me in the "Archives of Diagnoses") of periodic examinations. Thus can one learn just where he, or she, stands in the scheme of life, and act in accord with the expert findings.

Meanwhile there are innumerable means of economizing one's assets by adopting some hobby or interest or sport which appeals to taste, training, habits or make-up, any of which can be changed or modified as age or circumstance alters.

In the absence of need for making one's hobbies pay, numberless fields of absorbing endeavor lie ready to one's hand. Without further qualification there will be presented a bare outline of occupations offering amusement, health, happiness and sustained interest in their pursuit.

The Origin and Justification for Active Sports or Games for Middle-Aged Persons.

Open air sports are vital to the integrity of a stable nation. What is achieved for youth by means of their pursuit is carried over into those at the meridian, forming habits of mind and body which color and mould mature behavior. Sports and games are the outcome of instincts for the chase, for agriculture, for salutory enterprises.

When a people ceases to appreciate the value of sporting instincts, formed through generations of sound primary training, they lose qualities for which no substitute can suffice. These qualities lie at the foundation of individual proficiencies, aptitudes, of ideal successes. They do more, they made for national or collective spirit, for social tone, for public as well as private amenities, patriotism and loyalty to ideals, in short for chivalry.

To be sure it is permissible that those of highly specialized intellects may be excused from disturbance from these urgings, or "hold overs" from adolescent prepotencies. In middle age the foundation of mental complexes have been already laid, serving as springs of action and determinants of conduct, constituting a moral bulwark in times of personal or collective need.

Trite as it may seem, reference should be made to the "Glory that was Greece," from whence primal impulses arose dominating the Roman and later the Teutonic Anglo-Saxon, Slav and their characteristics in the foundations of the best in civilization.

Even as the child is father to the man, so do childish prepotentialities mould character and especially is this shown in that stable, stalwart group on whom the progress of civilization relies, the citizen of mature age and elaborated experiences.

To the Greeks then, must be turn with a certain reverence and thankfulness for initiating, elaborating and consecrating the incarnation of the beauty of motion. Theirs was the triumph of bringing together, assembling, formulating, the spirit of active sports in their largest and loftiest interpretations.

Energetic sport involves the idea, or principle, of perfecting one's inherent energies, reducing crudeness to artistic forms, rendering kinetic latent dynamics, making them available by training, pruning, amplifying the neuro-muscular mechanisms through systematic and consistent use; and dominating the whole with the chastening spirit of dauntlessness, loyalty, endurance, patience, self-restraint, cheerfulness and other correlates. Thus are the best home makers and home defenders created.

Historians tell us the most commercial of peoples are best qualified to take care of their own. This obtains till successes become too gross, till energies developed through overcoming difficulties subside through over-indulgences in luxury, they loosen the bones, dull the eyes of the people, who thus wax fat and slothful. Here we have in little, the picture of middle age as contrasted with prepotent youth and early reckless adulthood.

Of peoples so of individuals, too much prosperity tends to betray them into laxities in physical as well as mental and moral qualities. Recession sets in, a waning of alertness, a dilapidation of the finer and prompter dynamic adjustments. Indeed it is pertinent here to cautiously offer the query, is it possible we Americans can be showing evidence of premature decadence through excess prosperity and its malificent train of evils? Our recruits failed to fulfill our fond expectations of individual superiority to those of Europe.

Those who take the broadest view of our behavior as a nation, as displayed in perspective during the progress of the present world upheavals, entertain some well grounded apprehensions lest our flamboyant sophistication may have betrayed us, as a nation, into a loosening of the bonds of ethical cohesion, a lack lustre patriotism. A large part of our citizenry are frankly indifferent to the war. What this signifies as an incident in progress, and what it may bring forth in our future

concerns, demands careful evaluation. The chimera of Internationalism looms as a very present danger.

This group takes comfort and self approval in interpreting the facts along the lines of their tastes, immediate comforts and their selfish desires. They acquire merit by laying the flattering unction to their souls that the spirit of peace has come to reign supreme, that the golden age of pacificism has arrived, that mankind is now too enlightened to continue forms of dominating militarism. They serenely and fatuously delude themselves along the line of selfish preferences. Biologic and anthropologic laws are ignored.

They refuse to take cognizance of the fact that human nature has shown no evidence of radical alteration except in certain minor and surface directions and degrees. Eugenic selectivity has not begun to be accepted as an obligation. However, it is not our purpose to pursue this thought further than it shall serve to a point a moral for the middle aged citizen in relation to that form of vigilance and rational self-preparedness which makes for individual fitness to achieve, to function as a member of a constantly threatened commonwealth, or even to survive in the face of perils which may not be so obvious, but are clearly shadowed forth by the handwriting of destiny.

That well worn but deeply significant aphorism "Eternal vigilance is the price of liberty" stands in danger of being ignored, thus jeopardizing our survival as a national entity. In Greece the welfare of the commonwealth was held paramount, dominating all other considerations. War was not only the great sport, but the absorbing business of life. War was not so much an art, as a fine art, and that in a community of the highest artistic cultivation the world has ever seen. War was life itself. It always will be till the race is raised at least to the biologic level of carefully bred domestic cattle.

Adown the ages since then, while mankind has doubtless made many notable advances along ethical, philosophic and religious lines, there is no convincing evidence that inherent warlike qualities, instincts and determinants of conduct have ceased to be requisites to continued collective integrity or racial survival.

The background of all art is, and must long remain, skill in the art of war, in so far as warlike impulse or dynamics make for chivalry, for home defense, for the preservation of conditions wherein art grows and wisdom fructifies. The time has not come in the congeries and evolution of nations, nor in that of the individual, when struggles against adversaries can be omitted, when it is safe to say in the words of the song:

"Oh! do not wake me, let me dream again."

Too much prosperity is not an unmixed good, not even a wholly desirable condition.

From the young we expect initiative,; from the mature we expect wisdom. The *sine quo non* of wisdom is psycho-physical equipoise. The means which always has and probably always will be employed is the memory of war in the chase, active sports, whereby body and mind grow to their fullest perfections.

Begin by practicing conscientiously a variety of primitive movements calculated to restore full pliancy, mobility and elasticity to the whole body, limbs and trunk in order to acquire full conscious balanced control.

For those who are fairly nimble this may not take long—some weeks at least—and can be carried on at odd times, while in the full tide of work. For those who find themselves surprisingly stiff and awkward, and most persons will classify in this category, a longer time is needed—perhaps several months. To be sure, after the first overcoming of the more obvious limitations, when the earlier rigidities and sorenesses have subsided, one can begin the special practicing for the art or sport.

This preliminary warming up, getting the body into habits and capabilities for prompt and accurate obedience, is of far greater importance than most persons will admit. The majority, having set their minds to playing a chosen game, are far too impatient to begin. In consequence they will suffer grievous disappointments; will suffer aches and pains from long, unaccustomed exercises, will find themselves so "rusty," so astonishingly incompetent they are likely to abandon their project in disgust. Not only so, but good players don't relish playing with duffers. Get over the duffer stage by yourself. After limbering up the joints, after regaining conscious and deliberate control of their machinery and not before, are they in a position to begin playing at the game.

Next proceed to practice conscientiously the special movements you are, or may be, called upon to make in the performance of the game itself. Watch critically good plays by a champion or professional. If it be golf, there is much to learn in using the different sticks, in acquiring a balanced, forceful poise, in acquiring the right degrees and directions of the swing, in freedom and control of shoulder action, in judging the distance of the ball from your hands and the like.

If it be tennis practice the free and accurate swing, ambit, excursus or "stroke" of the raquet, and in all directions in which you are likely to be called upon to use it, not only the direct but the endless indirect strokes or blows, up as well as down, to the right and to left, under as well as over, and the like. It is particularly well to train the left hand as well as the right, as occasions often arise when it is well to shift the raquet from one hand to the other and save a play. Ambidexterity is not only an accomplishment, it is a mental education.

Croquet demands little more than moderate deftness with one arm and a fair eye, but to really excel is worthy of some training.

Among the other games of ball, cricket may be commended as eminently suitable for both the young and for older men. The action is, in the main, fairly deliberate, dignified, and demands relatively little abrupt stresses. As has been said, almost no man can attain sufficient skill in cricket who has not played at the game since early youth.

Baseball some few middle-aged men can play, and do play at it with pleasure, but the actions are too strenuous for any safety or real advantage. Only those should indulge in it at full maturity who have continued to play at it more or less constantly. Even then it cannot be recommended.

Lacrosse and rugby football (soccer) and squash, court tennis and raquet are all practically out of the question and may be dismissed; there is too much demand for rapid running of a spurting, racing character. Indeed, the entire game in each consists of fierce and frequent races of a heart-breaking kind.

Tennis is a superb game for early maturity, but of doubtful value for later years. The decision depends on the make-up of the individual, and especially on

the kind of training enjoyed in earlier years. Tennis can be played with advantage between persons of similar age and condition for mere amusement, but not for sharp competition. Of course, some competition is involved; it is the life of any open-air game, but the element of overeager stress must be rigidly subordinated or evil results may follow.

The game par excellence for those of early, middle and also late maturity is golf. All the desirable features of an ideal open-air sport is embraced in it; pottering about in the open air, in little or in no hurry, or individual stress, full deliberation in getting about from hole to hole, and sustained interest in the element of competition.

Golf cannot be too highly recommended for young and old. I have never known of any harm caused by it; I have observed a number of elderly men who took it up late in life and played to the end, which was thereby undoubtedly made more agreeable, and I believe postponed death.

Of skating I can only urge that in middle age be most chary of the ice, unless you have continued to skate more or less constantly. The danger of injury from falls in young people, or those in full elasticity, is small. When the bones begin to grow brittle it is a most serious matter. I have known so many pathetic instances of broken thighs and hipbones, conditions which are never capable of full repair in early senescence, due to fall on the ice, some while skating. I cannot warn too positively against taking any needless risks with older bones.

Of riding, equestrianism, we may here cite the excellent aphorism of Lord Palmerton: "The outside of a horse is the best thing for the inside of a man." To back a horse well requires a nicety of poise, of all the factors making for equilibrium, which resides chiefly in the small brain (cerebellum), but is compounded of a number of those nice capacities for adjustment (coenesthesia) with which the human body is provided.

Beginning to ride in late life is a dubious exploit; it may be acquired, and then again it may not. Falls, as has been said, are serious enough for any one of ageing structures and particularly if from a height such as from a horse's back. Any one who has acquired that certitude of poise which comes from long practice on the back of a horse, acquires a certain air, action and quality which, as Rudyard Kipling says of the carriage of a cavalry officer and man, "stays with him till death."

Probably nothing ever was, nor ever will be, more delightful than to ride along the open plains or shadowy woodlands on a good horse. All I beg is that you will begin at once to acquire the instinctive capacities needed without delay.

"Hunting," cross-country riding to hounds, fox hunting, enjoys the confidence and esteem of the Englishman and is carried on here nearly like that in the mother country, and to a large extent. It gives great satisfaction to foregather with "hunting sets." Here again to play the game well one must first become a thoroughly good horseman or horsewoman. This can only come about by long apprenticeship in the art of equestrianism. To begin in full maturity and without having acquired the necessary and self-preservative automatims, equipoise, knee grip, would be to invite fatalities.

Polo is called "the sport of kings." They must be relatively young kings who would play it. Perils for older bones and vital centers are here too large for recommending the game to men (novices) beyond forty or forty-five.

Motoring, Automobiling.—Driving a car now occupies the foreground of sporting attention, just as bicycling did recently. However much may be said of motoring as a sport, as a means of enjoyment, of annihilating space, it does not seem to me to measure up as a satisfactory form of exercise. I grant that it takes you there and back again, and also keeps you out in the air, produces comfortable weariness, supplies many forms of healthfulness, of excitement, of risks, and sundry other advantages. It does not compensate for repetitions of bodily movements, inducing perspiration (sweating), nor for full lung aeration nor rapid interchanges of bodily fluids in the great oxidation laboratories, the muscles in their varied and continued action.

Among the disadvantages are the crouching postures assumed with rigid arm muscles, the intensely strained attention to the road and the abnormal internal noises of the mechanism. This matter of faulty attitude is of greater significance than would at first appear. Most passengers in automobiles present the appearance of sick persons, or very lazy ones, lolling back, chin on chest, abdomen compressed, its contents constantly shaken violently, jarred, so of the nerve centers.

The backbone is curved inward, tending to produce the bent back of the prematurely old with all that implies of impaired function and abdominal supports. All this makes for abnormalities of vital function unless guarded against. Perhaps little harm is wrought by these unnatural postures, but I for one would hesitate to risk them.

Predatory Sports: Fishing, Hunting, Shooting, the Chase.

From earliest antiquity predatory sports and pastimes have occupied man's attentaion. These sports of killing wild creatures outgrew as a natural consequence of primal instincts for self-preservation in the quest for food. They have stimulated the production of wealth of special traditions, customs, songs and literature.

No primal impulse is more deeply ingrained than the love of the chase, whether of fish, fowl or beast, or so dominates instinctive choice and determination, or so colors thought and standards of conduct. We do well to hark back to these formative influences and use them as aids in disentangling our complex impulses and in releasing us from the benumbing effects of oversophistication.

The associated interests of propagating and training domestic animals, and its close congener the art of agriculture, comes second in importance as a pastime, yet these will be abandoned temporarily by almost any man at any time, to indulge in the pursuit of wild creatures.

So dear is the sport of fishing, fowling, or hunting to the human heart or active consciousness, prompting us to seek such crude sources of food and amusement, that they afford absorbing invitations to return to nature, to natural habits and doings. This going back on occasion to the simpler occupations, especially in the form or guise of sports and pastimes, surpasses every other known measure for recuperation from the effects of disorder or disease, also for restitution from stresses and anxieties inseparable from the complex life of civilization.

Fishing, Angling.—The taking, or "killing," or catching of fish large or small, is one of the most attractive absorbing and satisfying of the predatory sports. By

the term large fish we do not have in mind the taking of behemoths, whales, porpoises, or even the greater food fishes as cod, shad, haddock, tuna fish and the like; they fall under the category of business enterprises. Among large game fish may be named sharks, tarpon, silver jacks or salmon.

The gentle art of angling is chiefly concerned with smaller fish, those to be taken with a light rod and reel, a handline or possibly some form of a net. The peculiar charms of angling are found in the open air life, on or beside water free from dust, in a moving craft, in a shadowed brook. To be sure the thrill is aroused by overmastering the cunning and resourcefulness of the fish by human cleverness.

Fishing supplies a superb leisureliness and the zest of individual capture. Man pits his wit and cunning against the wary fish in a "sporting chance." Otherwise it descends to plain butchery. Just as much pleasureable pastime is derivable from taking small fish, provided they be full of resistance, of subtlety and gameness, as in capturing vast monsters of fishiness. It is less like labor, too, or wearisome enterprise, less taxing to strength otherwise better employed by the mature citizen.

For a graphic picturing of the delights of fishing the reader is referred, with confidence of hours of rare enjoyment in the perusal, to that prince of advocates of the gentle are of Angling, the late Isaac Walton.

By the way, the day need not necessarily be Sunday, though it has been handsomely advertised as the best of days by the anathemas of the more narrow-minded pulpit spell binders. For the life of me I can't understand why any man or boy should avoid so excellent and suitable a day for so wholesome a deed. Nor need the whole of Sunday be thus employed. The churches are entitled to all they deserve of devotion to that which they furnish which is of proven efficacy.

Shooting.—Many forms of shooting with a gun, rifle or pistol, are admirable pastimes for the mature man. They sieze and hold interest without inducing over much fatigue, yet they supply valuable stimuli to a large variety of neuromuscular activities, making for the agreeable effects of competition, and the development of latent powers of accuracy and promptitude of movement and of vision. A man disabled as to his legs or trunk, who retains competence in eye and hand, can get a lot of wholesome fun from the art of shooting. I believe it is a duty to become and continue to be proficient in weapons. It arouses a valuable confidence in oneself and fits one to protect others. Of course the occasion for using this proficiency may seldom or never arise.

The story of William Tell demonstrates how good shooting enables one to act on a lofty moral plane and exert influence on persons in high places. Nor is it necessary for a crack shot to kill men or animals. The shooting gallery affords ample room, outlet, for verge enough for this absorbing pastime. So does the field and clay pigeons for trap shooting and the rifle range for the sporting or military rifle. For purposes of killing any kind of game, fowls or beasts, it is all one so far as the act of shooting is concerned. The principles are the same for a fowling piece or for a rifle, though the particular applications differ.

The form of exercise to be had through the act of shooting is of an excellent kind to train both the whole body and especially the vision, the measuring of distances promptly and of giving scope to psychomotor judgments. If one elects to go into the open and kill fowl or small or big game, one owes it to himself to be well prepared by exercising with his gun even in his own bedroom. In my early boyhood I made many trips into the Tennessee highlands with a famous old hunter known as Buckshanks Whitehead, who was attached to members of my family, and conceived for me a paternal affection maintained for several years.

Whenever we prepared to go after the deer I always sojourned some days with him at his cabin "in the back of beyond," and he gave me most minute and careful training with his "kill deer" gun, a famous "Bean" hand-made rifle, six feet six inches long and weighing about twenty-five pounds. He made me practice a hundred methods of aiming, quick turning, running and turning, loading with nicety (it was a "patch" rifle and required skill in measuring the powder, in making and selecting the bullets) long before he allowed me to fire and waste good powder and lead. All these minutiæ served me in excellent stead in after life. Whenever I have planned to go on a hunting trip since, and the times have been numerous, I never fail to subject myself to a similar course of preliminary training, picking up a gun and aiming it quickly in all directions till it became as familiar to me as the use of a knife or fork or surgical equipment.

Thus I acquired a lot of exercise, confidence, automatics and certitude. Since the advent of middle age this practicing has been obviously more necessary. It takes me much longer to acquire endurance and precision, but it is well worth the effort. In consequence of this habit, or in discharging this sense of duty to do my best even in a sport, I have gained a reputation for good shooting which never could have come by any other means. Let me remark that long ago the appetite for killing game of any kind subsided probably because sated by much success, but I continue to delight in gun exercise and can still readily outshoot most guides.

It is tempting to enlarge here upon the theme and pass remarks upon the best methods of handling a shot or "scatter gun" as contrasted with the single shot or rifle. The human mechanisms which hold and direct the weapon are the same for each, and act similarly. They demand fullest flexibility, mobility of joints and accuracy of neuromuscular adjustments which being attained must be oft repeated to maintain. Moreover, they are each and all of vast use in any sphere of activity in daily life, by transference to new directions, objects, and adaptabilities.

For a middle-aged, or late-aged, man to sally forth with a gun in his hand or endeavor to kill a living, alert, wary, swiftly moving object without some careful preliminary preparation in the use of his weapon, is to court defeat, ridicule and self-abasement. Granting there are a few unique "natural-born shots" who remain facile and nimble by the grace of God, you probably are not one, and for you the only price of proficiency is, as for the rest of us, to work for what you get. Furthermore, even the best professionals and crack amateur trap shots and target experts rarely or never go into a competition without exercising a degree of careful training far in excess of what any duffer would scorn to take.

Big Game Hunting.—Having had personal experience in the chase of most varieties of big game in the United States and lower Canada enables me to express modest opinions. The mature man can get an immense amount of good sport and wholesome exercise from big game hunting with little peril or ex-

haustion, if he goes about it in the right way. The real charm lies in the strange, remote and delightful regions one must explore. This subject will be dwelt upon under the head of "Vacation Grounds."

It is imperative to train for endurance for some months before subjecting oneself to the exigencies one may be called upon to meet, or disasters may ensue. It is by no means necessary to kill; quite as much satisfaction can be had by photographing beasts in their natural habitat, woodland, or swampy lairs or mountain fastnesses. I happen to be writing this in northern Canada with moose all about, not one of which could I be tempted to shoot.

Some big beasts are easy hunting, notably the moose. He is a stupid animal; not so very wary, During the sultry season of early autumn, the bull can be approached readily in a canoe or by stalking on "muskegs," swampy places much affected by him. In the late autumn they are found along the tops of high ridges where it takes pretty active legs to stalk him. It is then difficult in proportion as the forests are open or thick with underbrush. Elk or wapiti are now only, or chiefly, to be found in mountainous regions, having been driven there as a last stand before their final slaughtering and extinction. A stout, middle-aged man can get fairly near an elk on a pony, but should be able to climb pretty well also if he expects to get a good shot with gun or camera.

Rocky Mountain sheep, big horn (Ovis Americana) occupy chiefly the steepest and most inaccessible mountains. The same may be said of the Rocky Mountain goat which is even more shy and unapproachable. To meet with any assured success in going after either, one must be a pretty capable mountaineer with not only well trained legs, balanced powers, but cool courage and full resourcefulness. You take your life in your hand, and on many occasions I have been in serious jeopardy.

One grows reckless with the repetitions of narrow escapes and the absorbing stimulus of the chase. Here is a personal and characteristic incident. Once in the Hoodoo Mountains I was sitting on a high spot in company with a most capable guide looking down into a vast canyon, when a magnificent ram rounded a shoulder far below. The guide showed me a point on a vertical cliff directly over the ram, from which a good shot could be had, saying also that there was not time enough to get there. Whereupon I sprang up and ran to the place in a few moments, literally touching only the "high spots," and got my shot. Afterwards the guide was the better part of an hour reaching me. He confidently pronounced me several kinds of a fool—and he was perfectly right. I was then young, but there is no fool like an old fool. The mature fool is a stiff-legged and less well-poised fool.

Deer, especially the red deer of the Eastern States, are to be hunted with comfort and ease. Black tails live in much the same region as sheep and goats and elk. Mountain lion are so rare they need scarcely be mentioned. Anyhow, they are hunted on horseback, and hence are approached with ease.

Small Game Hunting.—Small game shooting furnishes the young man who would be young at fifty far more that is desirable than does big game. Rabbits answer pretty well as a training for quick shooting. The main quarry for the hunter with a shotgun is the bird, water fowl or land fowl, and each are interesting of their kind. Field gunning is far more suitable for the mature man than are "long shore" ducks and "bay birds." In the field he must do some walking or he can use a pony the greater part of the time.

The shooting of water fowl, ducks, geese, brant, etc., call for a degree of exposure to continued cold while confined in a cramped position, and one is unable to get the relief of active motions, and that chilling maneuver is full of peril for the man past fifty. It is becoming well appreciated how enormous and rapid is the increase of kidney disease. These arise thru disturbances which are associated with heart and blood-vessel disease. Exposure of the skin surface to damp and cold is a fertile source of congestion to the kidneys; and also to other vital organs. Chill in a "sneak box" with repeated doses of alcohol to "keep one warm"—which it does not do—is an excellent recipe for Bright's disease.

The preservation of small game such as quail, pheasants and of the migratory food birds, deserves the best attention of influential and middle-aged citizens in their own best interests.

Yachting, Sailing, Small Boating, Canoeing.—Any form of amusement on the water, such as is afforded by boats or water craft. is one of the best means of tranquilizing and refreshing both body and mind. Even the excursion steamer, despite the crowds, confusion and noise, has served to conserve health and nerve strains for uncounted thousands. Sailing is far better than any steam propelled craft. Motorboats are now as numerous as were punts, more so, yet they are chuggy things and miles away from a good catboat or sloop. The yawl is an ideal sea or bay-going instrument, handy and safe. To be sure, an auxiliary engine is an invaluable means of getting you home on time when the wind dies down.

To be sailed by a safe skipper is best for the overwrought citizen and timid female, inducing a peace and serenity of soul or nerves of saving efficacy. There is far more fun, satisfaction and oftentimes excitement to be had by sailing yourself. To do so you must undergo an apprenticeship. This is no great hardship and affords new points in your own character and estimates of your resourcefulness. Quiet sailing beats hurrying by miles of margin.

The large palatial yacht is all very well, but it is too much like a luxurious hotel in which there is often an overplus of barrooms and mermaids or sirens. The smaller yacht, where you take a hand at sail-making, sail-taking-in, and a trick at the wheel, is to be preferred. The roomy houseboat is much in vogue and delightful for domesticity. Rowing is an ideal form of exercise. A punt in a back water, pond, bayou or small stream gives a lot of good opportunities.

From a flat-bottomed boat or a broad wherry you can fish comfortably. You can almost walk about the craft, pass long hours in blessed idleness in most weathers; especially if you can rig an awning to fend off the rain and the too eager sun.

Good company can be chosen, sweet converse held; al fresco meals can be set forth, or one can go ashore at any attractive spot as long as one likes, or avail oneself of chance hostelries. The punt is a blessing, especially in a country where they use them as much as in England. They are within the reach of very humble purses.

While my personal familiarity with all forms of boating mentioned is fairly large from early boyhood, and includes a winter cruise on the Mediterra-

nean, my heart goes out to the birch bark canoe. Space only permits a remark or two of experience and precautions. To know and be confident of a canoe, one must begin during boyhood, as in cricket. No man of fifty can safely attempt playing a lone hand with a birch in "strong water," in rivers, small lakes or the seacoast. No middle-aged man can acquire the essential "automatics" in handling so ticklish a craft by himself.

The most conspicuous illustration in my experience was with Dr. Weir Mitchell, who was a famous and constant salmon fisherman, but never could be taught to pay attention to his paddle. I canoed with him much at Bar Harbor, but always held the craft in my own hands. He would frequently invite some friend to go along, but so often stopped to talk we should never have reached the shore except for my thorough training and vigilance.

Swimming, Sea Bathing, Water Sports.—Swimming, is, in many respects, the best form of exercise for young or old. Man is the one animal which needs to be taught to swim. Yet so entirely instinctive and natural is it to make the motions that it would seem any one should swim when put into deep water.

It is something of a job to teach an older person to swim, especially if he has attempted it before and failed. The main diffculty is always FEAR which may become *frantic terror.* Here again the preliminary motion training is of utmost service. Lie on your stomach on the floor, propped up on a small cushion, soft stool or folded hair pillow to raise your body above the surrounding surface, then thrust your arms and kick with your legs just like a frog and keep repeating daily till you master the motions and can keep them up for half an hour on end. Then, if you jump into a pond you can swim away like a pearl diver.

There is, of course, much more to be learned, but is mainly concerned with how to take the movements of the water, the wavelets, slaps and currents; how to float and rest yourself, how to tread water, to carry weights, to climb into a boat or canoe—every one of these proficiencies it is the duty of every self-respecting man or woman of fifty to attain.

Sea-bathing is a subject deserving of sober, even critical attention. It has been so extolled by medical men, by hygienists, and taken up so flamboyantly by owners of waterside real estate and by hotel proprietors in mass, that it is well to stop and consider how much of this advocating has stood the tests of time.

I have discussed this subject elsewhere, yet must here make a few remarks. Sea-bathing is a very agreeable pastime, can be made an excellent sport, is suitable for young vigorous adults, but must be surrounded with adequate precautions and regulations, or it can (as it does) do a great deal of harm. By no means is it to be recommended indiscriminately. Brought up as a boy on the seacoast, I early acquired the essential automatics; also, I practiced medicine in summer on the Jersey coast for ten years, and the Maine coast for more. I have seen far more harm than good from sea-bathing.

We are considering sea bathing from the standpoint of middle age and those who are (presumably) unaccustomed to the conditions involved; to exposure of the skin to sun and wind, to it may be overheated air, yet often it is to relatively cold air, the water being usually much colder than that the bather usually employs. The air blows over the wet body and chilliness is induced. Bathers are called upon to make, for the first time in months or years, strenuous and unfamiliar exertions, in heavy waves; they are called upon to withstand sudden, often tremendous impacts, blows, buffets, frequently on sensitive areas, the head, the abdomen; the back is subjected to unusual and heavy stresses; the heart is taxed severely.

Yours may be a good heart, as the hearts of sedentary people go, but entirely unaccustomed to these sudden and fierce efforts. The whole circulation is thrown out of its usual adjustments; the surface vessels overstimulated, the vasomotor reflexes are set in confused whirl, the veins contract and relax bewilderingly. The vagus and sympathetic nerves are whipped like a galley slave into a seesaw of reflex commotions and confusions. Only the most robust can edure all, or the chief part of, these sudden reactions without exhausting disturbances, breathlessness, headache, nausea, faintness and the like. Even though the more vigorous can undergo all this castigation with little more than resulting discomforts, what should they do? Why endure so much mauling all at once?

Let me remind you that beginning or latent heart and blood-vessel and kidney disease is to be expected at full maturity; also other latent weaknesses begin to manifest themselves and should not be aggravated. They may not develop further unless organs and processes are rudely jostled out of their familiar and peaceful routines.

Outdoor Sports of the More Active Kind Where Individual Skill Is Required.

THE ROUSE OF COMPETITIVE INTERESTS, OF LOYALTY TO ONE'S GENS, CLAN OR RACE

One working principle obtains in the performance of the more active outdoor sports by mature people. Unless one has early accustomed oneself to a fair measure of varied muscular activities it is futile to expect to excel or to acquire high skill in them. In order to perform skilfully varied and particularized movements after the period of adolescence it is essential that the foundation for doing so has been well laid before or during that time.

As illustration it is well known that no man can become a first class fencer, boxer, golfer, a lacrosse, baseball, cricket, hand-ball or racquet player, who has omitted to acquire some skill in their performance during boyhood. To a certain extent the same rule holds for swimming, skating, riding and curling. They involve the employment of instinctive movements, for which the body requires less primary specialization or automatisms than in the first group mentioned.

As to football, Rugby football (Soccer) and other group or mass games, good players can be made of young adults, though in the finer performances only those who have trained in similar movements or acts can be expected to attain distinction. At the least it is of profound advantage for anyone who attempts these sports in later life to have early acquired dexterities in the same or similar muscular coördinations, poise, swiftness of eye and ear and other sensory responses, in short psychomotor reactions.

To be sure it is a fact that anyone who has been thoroughly trained in active childish games or light domestic or farm labors, in which similar and varied actions, balances and the like psycho-physical adjust-

ments, can utilize them again in acquiring skill for other purposes. Do not let these facts, however, deter you from "going in for" the kinds of sport alluded to provided you retain the needful organic and structural soundness and adaptability. You can get a lot of fun, pleasure, satisfaction and healthfulness out of them.

Certain precautions and systematic methods must also be observed. In order to achieve sufficient expertness in these most active facilities and games, bear in mind that unless you have enjoyed the primary advantages enumerated, you have a long road to go before acquiring even the very moderate skill necessary to become a fair performer, competitor, or to get much real satisfaction from their pursuit.

No one wishes to remain a duffer always. A fumbler or "dub" or swat, you assuredly will be and remain, and you will probably become disgusted and abandon them unless you go about learning the right way. There are varying opinions as to what is the right way. Probably there are several right ways, and that they vary with individual make up. Assuredly the easiest, or best, way is to employ an expert and abide faithfully by his teachings, and always to practice assiduously.

If you equip yourself with the necessary instruments, objects, costumes and the like, and employ an expert in riding, golf, tennis, etc., one golden rule is uniformly enunciated, viz.: take frequent lessons, employ them at so much per, and perform under their skill conveying directions incessantly.

This is a good rule and occasionally is crowned with conspicuous success. You must bear in mind that to follow it calls for the expenditure of a vast lot of time in pupilage. You are likely to achieve only such skill as can be got at their hands and this depends on just how closely you adhere to explicit teaching while being taught. An excellent discipline for the spirit as well as dexterity, is this probationing. Note a point just here: Be sure to absorb the essentials and avoid individual mannerisms and preconceptions of the particular teacher which may be very good for him, but not necessarily for every, or any, other man.

Let me call attention to certain biologic principles which must always be reckoned with. In the vast majority of instances the mature man or woman has neglected to keep his neuro-muscular mechanisms in a state of adequate employment to perform all or most of those particularized acts brought into collective alignment and applicable in the pursuit of active sports. They have restricted their movements to the simpler routine procedures of common life or to a group of oft-repeated acts which suffice for their occupation or pleasure. The temptation is to work along the lines of least resistance, to fatigue themselves by a limited group of motions, and otherwise to rest as much as possible. Some labors and arts demand excessive repetitions of acts, hence exhaust the structures of those employed. A much larger group remain unused, hence lose their facilities their mobilities, their pliancy and adaptability.

Most people never use, never put in action, their full muscular equipment which they should do and which in the days of developing childhood they constantly and freely exercised. It is not an added fatigue to enlarge the scope and direction of these unused muscles unless done in great excess, but is rather a rest to the overworked ones.

A muscle grows, becomes and may remain well nourished, may attain normal or even abnormal size with only the minimum amount of stimulus to functionate, to contract, to move the levers, the bones and ligamentous attachments and other mobile or supported parts.

Direction and adjustments of muscular force comes from the nerve centers, the brain cortex and elsewhere, and these centers also require use, stimulus from the will, volition, and exercise to preserve their capabilities, or they remain in abeyance or become impaired. Hence in the ordinary person, especialy the sedentary or inactive person, these centers get so out of commission as to require a good deal of volitional stimulation and also practice to get back their directive facilities and proficiencies. In youth we keep these neuromuscular mechanisms busy and form habit paths through repetitions of normal acts, hence they become more and more facile, expert, competent and proficient.

One who in later life makes constant use of these habit paths and who adds to them newer motor routes, or facilities, keeps the neuromuscular mechanisms at a high degree of repair and facility. And if this be done symmetrically, in all directions and especially to the full extent of capability to move, they can be turned, or applied to, any form or group or complexity of acts demanded by any novel, special or particularized motor purpose.

For one who specializes in one group of movements these motor paths or facilities attain an extraordinary, often an almost unbelievable, proficiency, showing how amazingly resourceful are the whole congeries of factors concerned.

As an illustration, note the exquisite variety, delicacy and precision of a violin player reflecting a degree of sympathy, emotional thrill, making them a very part of the hierarchy of intellectation. So of the piano player, the painter, the surgeon, especially the specialist, as in operations on the eye, ear and nose, the "professor" of legerdemain, the sorter of mails, the embroiderer, the skilled artist or artizan in endless familiar occupations.

How shall the man or woman of fifty set about acquiring, or it may be reacquiring, facility in active sports requiring special precision of motivation? As has been said there are many methods of procedure free to each. The method which I recommend, based on long experience as an adviser, and in full accord with biologic considerations, is as follows:

In short, surf bathing must be regarded as an ordeal. Proper safeguards being observed, it is safe enough for most and beneficial for some. The obvious safeguards are to go to it gradually and guardedly, a little exposure at a time, with graded advances for a whole season is one thing, it is quite another to devote a few days only and to crowd into these excesses of effort while the body and skin is soft and oversensitive.

Arthrotomy, the operation most currently practiced for infected joint wounds in civil practice, has but few indications in war surgery. Its results are generally unsatisfactory, and Taddei has observed that amputations for infected joints were of the infected surface is incomplete; removal of foreign all in those who were primarily arthrotomized. The exposure bodies, bone chips, etc., is limited; and drainage is insufficient.

The perforation should be closed with linen sutures and reinforced with a tag of omentum when necessary. Unless the peritonitis is extensive and the patient's condition is grave, Deaver does a primary gastro-enterostomy. He also removes the appendix, examines the gall-bladder and pancreas, and if either of the latter is diseased, he deals with it as indications present.—(*Surg., Gynec. & Obst.*, p. 489, 1918.)

General Scientific

THE DIAGNOSIS OF PULMONARY TUBERCULOSIS.

GEORGE THOMAS PALMER, M. D.,
PRESIDENT OF THE ILLINOIS TUBERCULOSIS ASSOCIATION AND DIRECTOR OF THE SPRINGFIELD OPEN AIR COLONY,
and
WILSON RUFFIN ABBOTT, M. D.,
CONSULTING CLINICIAN TO THE ILLINOIS TUBERCULOSIS ASSOCIATION AND ASSOCIATE DIRECTOR OF THE SPRINGFIELD OPEN AIR COLONY.
Springfield, Ill.

2—The Physical Examination in the Diagnosis of Pulmonary Tuberculosis.

In the diagnosis of pulmonary tuberculosis, it must be borne in mind that there is but one pathognomonic evidence of disease and that is the presence of the tubercle bacillus in the sputum. There is absolutely no conclusive sign of early tuberculosis since the presence of the bacillus is an indication of more or less advanced disease. The physician who waits for a positive sputum before making his diagnosis will never detect an incipient case.

In the absence of pathognomonic signs, the physician must realize that a diagnosis must often be made only by the weighing of the many points in evidence and the success of his results will depend far more upon his intelligence and judgment than upon any possible process of reading the handwriting on the wall.

If the physician has taken the case history himself or if he has carefully studied the case history taken for him by an assistant who is thoroughly trained in tuberculosis, he will have in his mind facts and incidents which will cause him to suspect the presence or absence of tuberculous disease. In undertaking the physical examination, however, he should eliminate from his mind as far as possible any pre-conceived notions or ideas. He should lay aside the facts elicited in the case history as far as possible and should go over the patient as though he had an entirely new problem before him.

Much confusion and misconception has been caused by the large amount of attention given, in text books and current literature, to the ultra-refinements of diagnosis and the general practitioner has been discouraged in dealing with tuberculoscis by the stress laid upon the vague and indefinite evidences of disease which are observable only to individual specialists and whose value is seriously questioned by other tuberculosis men of equal skill and prominence.

It has been previously stated that this article is written as a guide in the diagnosis of the average case of tuberculosis and that it deals only with those things which are available to the busy general practitioner. Rare and elusive border-line cases should be referred to the tuberculosis expert for whose services there will always be a demand however proficient the general practitioner may become.

The writers believe that a not inconsiderable number of incorrect diagnoses have been due, not so much to a lack of knowledge or lack of technical skill upon the part of the examining physician, as to the mental bias with which he has approached his subject, often prejudiced in mind and anticipating a *pro* or *con* verdict before the complete evidence has been taken under review and given due consideration. The inherent possibilities of such a course are too evident to need extended comment and it seems scarcely necessary to remark that one should assume a judicial attitude of open mind, withholding decision until the last pertinent fact has been weighed, valued and tabulated.

Of no less importance is it that sufficient *time* be devoted to the physical examination. More than one skillful diagnostician has had his reputation impaired by neglecting this precaution. Only recently a physician brought to us a patent who gave abundant, though not marked evidence of tuberculous activity; whose physical signs were well defined, notwithstanding which he had but a few days before been pronounced sound of lung and advised to return to work, and this too, by a clinician of national reputation. Knowing full well this physician's undisputed eminence and ability, we were puzzled that he should have made so palpable an error until inquiry revealed that the hour was late, that patient and physician were tired and desirous of getting each to his home. This had resulted in a rapid, cursory examination that precluded the possibility of thorough, painstaking, accurate work.

Based upon the examination of several thousand chests, we feel that seldom indeed is it possible to make the initial, thorough, painstaking examination and charting in less than thirty minutes. Forty might perhaps be nearer the average and occasionally even sixty,—this in addition to the time required for a satisfactory case history.

And finally, before passing on to the examination proper, we must emphasize the necessity of physical comfort both for the patient and examiner. They must be at ease. Of paramount importance to the physician is mental concentration, and this is impossible if he be disturbed by awkward postures, the restlessness of an uncomfortable patient or unsuitable seating arrangements, distracting noises, conversation or other irritating factors.

Agreed, then, that we have the proper mental attitude, that the patient has been stripped to the waist and that we are comfortably seated and devoid of all distractions—then, and not until then, are we prepared to undertake the physical examination.

Eyes That See—Inspection.

The authors believe that there are few, if any, important continuous and progressive lesions of the chest or its viscera which are not manifested eventually in changes in the normal thoracic lines. If this be true, it is of supreme importance that inspection be given a high place in the province of diagnosis, and that the examiner have clearly in mind the concept of what constitutes the normal,—that the normal adult chest circumferencially considered is elliptical in form; that in babyhood it is round and that in early childhood it is intermediate. One's observations should be made from above and from the side,—the patient being relaxed and at ease with his arms hanging.

In our experience, four types of chest are most commonly connected with tuberculous activity. They are: (1) the chest of expiration; (2) the chest of inspiration; (3) the flat chest, and (4) (in children, though not exclusively so) the pigeon chest. These chests are indicative of three possible conditions: (a) past pathological activity; (b) present pathological activity; (c) future pathological activity.

The *chest of expiration* is long, the shoulders droop, and their distal ends have a tendency to curve forward. The ribs point obliquely downward and the general contour resembles that seen at the end of a forced expira-

tion. If the patient be not well nourished, the scapulæ are prominent and the mesial margins protrude from the thoracic wall.

Not infrequently, these chests show a marked flattening downward from the nipple and laterally from about the sixth rib in the midaxillary line, slanting forward toward the base and sternum. The general direction is fairly well outlined by placing the thenar eminence upon the crest, webbing the fingers and allowing the hand to assume its natural downward and forward position. The patient should be directed to take a deep breath. He will draw his shoulders up instead of backward, the chest being elevated *en masse*, the inspiration being very shallow and followed immediately by a sudden quick expiration.

In the *chest of inspiration* the anterior-posterior diameter is longer than in the one just described. The ribs straighten from the angle forward and the upper chest above the nipple protrudes balloon-like. The shoulders are drawn back and upward, resembling the posings of certain professors of physical culture. Clinically it is found in emphysema, in effusions, pleural adhesions at the base,—anything indeed which interferes with the free excursion of the diaphragm or the expansion of the lower lobes.

Flat chest is marked by a shortening of the anterior-posterior diameter of the ellipse. This is best seen by standing at the patient's side and looking downward so that both surfaces are brought into view at the same time. This chest is indicative of impaired respiratory excursions. The lung expansion is deficient. Dissemnated areas of emphysematus breathing are common and one can often obtain a history of childhood pneumonia or "winter cough."

Pigeon chest is a bilateral deformity of early childhood, characterized by a gradual elevation from either side, culminating in a peek in the mid-sternal line. It is indicative of an obstruction to inspiration during the years of early life when the bones are soft and yielding. Chronic bronchitis, adenoids and hypertrophied tonsils are some of the commoner causes. From what has been said regarding these chest deformities, it is clear that they are all associated with an obstruction to the free respiratory excursion. Their importance lies in that they always indicate an underlying soil favorable for tuberculous activity. Normal breathing is a passive act and anything which accelerates or retards it, continued over an extended period, will be reflected eventually in a distortion of the normal contour of the thoracic walls.

It is beyond the purpose of this paper to enter into an extended discussion of the phenomena of respiration in its relation to physics and physiology; it is to be borne in mind that the diaphragm is the chief muscle of respiration, that other muscles, with the possible exception of the intercrostals, which fix the ribs during the descent of the diaphragm, are necessary but are only brought into play as auxiliaries; that a free excursion of the diaphragm is an essential of a symetrically developed chest; that the excessive functioning of accessory muscles is *a priori* indicative of vicarious respiration and vicarious respiration cannot exist for an extended period without producing structural changes.

There are, beside these bilateral evidences, others, less pronounced, but of greater clinical importance, inasmuch as the former may not be incompatible with an underlying, healthy viscera, whereas localized unilateral abnormalities never are. They indicate areas of low resistance and are prone to break forth into active disease.

Hilus dimple. One of the earliest to give surface markings is the adhesion of the mediastinal wall at the root. When this occurs in early childhood, while the walls are still soft and yielding, it may produce a depression which has been called the "hilus dimple." It it an indication of an early mediastinal adenopathy and pleuritis.

Muscle spasm. Ewarts in England, and Pottenger in America, have called attention to the important and seemingly much neglected phenomena of muscle spasm. This seems to be a conservative process on the part of Nature to restrict motion in the suffering tissues. In certain muscles, such an intercostals, sterno-mastoids and trapezii, they can be seen to stand out prominently and rigidly, whereas in the case of the intercostals, they hold the attached ribs fixed, similar to the condition seen in costal fractures. In the back, they may appear as elevations of contracted muscles, really local spasms. Frequently the patient will indicate these areas as seats of pain. Not infrequently they are diagnosed as "muscular rheumatism." Doubt can often be dispelled by passing the fingers gently over the suspected areas, the increased resistance and tension of the muscles being easily demonstrated.

Atrophies. Later, under an increasing involvement of the parenchyma and its pleura, there follows cicatrization and contraction, atrophies indicative of old lesions, a terminal scene in the second act of the "Tragedy of the White Plague."

Bulgins. In general, the causes of bulging are effusions into the pericadium or pleura, cardiac enlargements, anuerisms, neoplasms, pneumothorax and hydatid cysts. We will not here enter into the differential diagnosis; that can be found in any standard text. We would, however, call attention to an enlargement or bulging that appears in the lower chest approximating a hands breadth in width over the base of the lung. It is most commonly situated on the right side and frequently is the site of pain. It does not give the classical signs of effusion. Generally transitory, it tends to disappear spontaneously, save in a few instances, in which it has seemed to be permanent but in these cases we have always found it associated with rather pronounced varicosities of the thoracic veins.

For lack of better knowledge, we have come to look upon this as due to a local turgesence of the hepatic or splenic veins, the result of inflammatory changes. Its chief importance clinically is that, in acute pulmonary conditions, it may be taken for effusion. We would emphasize however, that it has not the pronounced dullness of the latter; neither is the vocal resonance markedly impaired. Puncture is negative.

Eyes. Never neglect to search the eyes. Pottenger states that fifty per cent of tuberculous patients show dilation of the pupil on the affected side if the process is acute, and that a much larger number would show it if the observations could be continuous. Fishbirg says that the eyes are the most pathognomonic part of a consumptive's countenance. Kulty directs attention to the deep set eyeball as indicative of an old lesion of the pulmonary apex and its pleura.

Lagging is one of the earliest physical signs of pulmonary or pleural disease. Infection of the pulmonary parenchyma or of the pleura is manifested by slower dilatation of the vesicles upon the more acutely and more recently affected side. It may be manifested in

every degree from mere delayed motion in incipiency, to complete immobility in the advanced cicatrized lesions. It can always be detected by palpation when not demonstrable by inspection.

Alternate lagging, when present, is usually found at the base. It seems to be due to a form of vacarious breathing. This also is best demonstrated by palpation. (Phenomena of alternate lagging in unilateral emphysema.)

Inspiratory retraction is frequently observed in old lesions and is most plainly seen in the intercostal spaces. It consists of depressions or retractions manifested as the diaphragm descends on the anterior or lateral surfaces of the chest. In one patient, at the present time under our care, a marked trough-like depression extends from the tip of the typhoid process almost to the umbilicus as the diaphragm descends. It is interesting to note in this case that the patient has pigeon chest deformity, and although we can obtain no history of definite childhood infection, she states that she was always a delicate child and we have no doubt but what the thoracic deformity resulted from, and was caused by, diaphragmatic adhesion.

Fingers. Nails with a pronounced convexity paralleling the long axis of the finger, tending to dip sharply downward at the distal extremity, that are brittle and ridged longitudinally, whose matrix is blue of hue and fingers that are enlarged and clubbed, have long been recognized as frequently associated with tuberculosis. We believe it is most evident in those cases in which dyspnea is a pronounced symptom.

Fingers That Feel.

The writers believe that palpation has been given scant consideration, as a diagnostic aid in pulmonary lesions, compared to percussion and auscultation. This has not been due, in our opinion, to lack of worth in the method, so much as failure to appreciate and understand its merits. Teachers have elaborated and emphasized the value of what one may see and hear, and very properly, rightly, but in so doing they have neglected to lay sufficient stress on what one may feel. This, in our opinion, is probably the chief cause of the fault common to all of us possessing the full faculty of sight and hearing—the failure to develop our sense of touch.

In our practice, palpation has won a prominent place. It has revealed to us conditions with a consistent degree of accuracy and the rapidity and ease with which trained fingers can detect underlying conditions should commend this method to all clinicians. The keen "touch sense" of the blind is proverbial and we speak advisedly and from a wide experience in saying that all men may develop a high degree of proficiency if they will but "shut their eyes and feel their way."

It is beyond the province of this paper to enter into this discussion further than to say that the art or auscultation rests fundamentally upon the science of sound and requires for its fullest appreciation and development an ear and brain attuned to rhythm, to volume, to pitch and to quality. The same is true of percussion which is even more complex in that a fifth factor,—that of tactile sense,—must be taken into consideration. Incidentally, this may explain the failure of many to develop the same degree of skill in this that results from an equal time and effort expended upon auscultation.

As we have already pointed out, muscle rigidity, delayed and deficient expansion can oftentimes be felt when not seen. A skilled hand will also detect local temperatures, and, it goes without saying, palpation is oftentimes the only means of detecting a concealed adenopathy.

The increased resistance of the thoracic wall overlying the anthrocotic lung, so frequently found in miners, and the sponginess that betrays cavity is common knowledge to all who have had any experience in chest examinations. Tumors, consolidations, infiltrations, pleuritic thickening, pleuritic friction, effusions and cavatations, —in short, all gross variations in antrathoracic density, may be at once revealed to the trained hand passed over the chest while the voice is articulated in whispered or vocal resonance.

Vocal fremitus is particularly valuable in revealing small cavities, discrete areas of relaxed aveolar walls and consolidations.

In patients who speak in heavy resonant tones of low pitch, that throw the whole chest wall into marked vibration, sharp definition may be difficult or impossible. In these cases a whisper will give better results. Our own tendency is toward a preference for the whispered voice. *If one detects under the whispered voice a small area of fremitus, say the size of a half dollar or less, which disappears under the audible voice,* one may assume with a fair degree af accuracy that he is dealing either with a small cavity or consolidation. If it is a cavity there will be a lack of resistance or positive sponginess to the pressure of the finger, whereas a consolidation always gives a sense of increased resistance. One soon learns by practice to distinguish between the two. *The important thing to the practitioner is, it indicates that he s dealing with an area of parenchymatus degeneration,*—a matter that may be of supreme value when read along with the case history. Also it occasionally happens that these small areas, so easily defined by the sensitive finger, require considerable spill in the art of percussion and auscultation for their detection. However, let us add that absence of fremitus does not necessarily mean absence of increased density. Fremitus requires for its production an underlying column of air capable of transmitting its vibration to the overlying structures. If, for any reason, these two conditions do not exist, the fremitus will either be zero or not easily detectable: Example—stenosis of bronchi, some effusions and chest deformities, rigidity or loss of elasticity of the thoracic wall.

The technique of palpation is simple. Use the pulp of the fingers or the inner ulnar, surface of the hand. The latter is not always adaptable but has the advantage of being more sensitive. Too strong a touch obtunds the tactile sense. Too light a touch lacks in positiveness. A fair guide is about what can be borne without discomfort upon the closed eyelid.

Ears That Hear.

Percussion. We have already spoken of some complexities that enter into the art of percussion and it is not our intention to discuss them in further detail. We wish, however, to emphasize certain essentials that must be kept in mind and followed if one hopes to obtain satisfactory results. To thump on a chest as we have frequently seen done, with thumb and fingers bunched, or the pleximeter finger placed across the ribs; to strike the percussion blow—yes, even through vest and shirt or with a force that may be heard several feet away; to hold, at the same time an irrelevant conversation;—in short, to disregard almost all refinement of technique, can reveal little or nothing of diagnostic worth. Such an exhibition is convincing that the examiner has at best, only a most hazy conception of the science and art

as developed by Augenbrugger and his followers.

Indeed, percussion conducted as described seems to be carried out as a routine procedure rather than for any real information that may be gained. Those cases wherein these slip shod methods do reveal pathological conditions are the ones in which percussion need not be employed,—when the disease is self-evident. It is in the early lesions before ausculatory signs are in evidence, in those cases in which the evidence of disease does not extend beyond smaller areas of parenchymatous infiltration, and in which, there is no impediment to the ingress and egress of air, that the percussion phenomena are of supreme diagnostic aid.

Those essentials which, in our student days, were laid down by our teachers in physical diagnosis, seem all too often to be disregarded or forgotten, and it may be well to refresh our memory and emphasize their importance by repetition. They constitute essentials which must be kept well in the foreground and never under any circumstances disregarded.

(1) The pleximeter finger must be placed with moderate firmness in contact with the surface to be percussed.

(2) The force of the percussion stroke should always be equal and proportionate to the area and location being delimited.

(3) The percussion stroke should be delivered directly perpendicular to the plexímeter finger, the plexar finger striking hammerlike and instantly uplifted—a "pecking motion" somewhat.

(4) The motion is generated entirely from the wrist.

(5) It should not be delivered with great force.

(6) For fine delimitations a light stroke is essential.

Apical percussion. The earliest evidences of parenchymatous changes are, with a few rare exceptions, to be found in the apices. It would seem then that the apex is the place one should first seek for the evidences of infection. This is manifested either by impaired resonance or by tympany. It is also apparent that the differentiation of tonal qualities requires a rather refined technique and keen aural definition. We shall not take up the consideration of these tonal classifications but rather we would emphasize that any variation from the normal in the apices should arouse suspicion and the query whether or not it fits into a case history of tuberculosis.

The apices of the lung, on the anterior chest, extends up between the two heads of the sterno-cleidomastoid a distance from one to two fingers beneath, a little lower on the left than the right side. These areas should be resonant but with this difference that the right is less resonant than the left. If this relationship is disturbed, one of two conditions exist —either the right apex has an infiltration producing relaxed walls, manifested by increased resonance, or there is a lesion on the left which has impaired its resonance. This is very suggestive of tuberculosis if one is able to eliminate an apical pneumonia or pleuritic adhesion.

Turning to the posterior surface, the same variations suggest the same interpretations as on the anterior. The points especially to be sought out are the apices of the upper and lower lobes. Both upper lobes are to be found above a line continnous mesially with the spines of the scapulæ and lie under the transverse processes of the first thoracic vertebra of their apices. The lower lobe on the right side begins at the fourth thoracic vertebra. On the left side at the third thoracic vertebra.

We repeat that hyper-resonance or tympany or impaired resonance or dullness have the same signification here with the same qualifications, as were applied to the percussion of the apices on the anterior surface.

In this paper we are not as much concerned with finer differentiation or signification of physical signs as we are in giving the seeker some ready rules of thumb that he may use with a reasonable degree of reliance in his every-day practice. With this in mind we say that for practical purpose, i.e., for the great majority of cases, upon finding any impairment of apical resonance, any impairment of the respiratory excursion of the apex and base, any variation from the normal relationship in the percussion tones of the apices and, considering also the great prevalence of tuberculous disease, it is a safe and sane practice to look upon these adventitious tones as indicative of tuberculosis and to treat the case as such until reasonable evidence to the contrary is adduced. Especially is this true if it squares with history and symptoms of tuberculosis.

(*To be concluded in September.*)

PROTEIN METABOLISM AND INTESTINAL PUTREFACTION.

EDWARD E. CORNWALL, M.D., F.A.C.P.
Brooklyn, N. Y.

Protein enters the body chiefly in the form of amino acids, into which its molecule has been split up by the processes of digestion, and to a less extent in the form of other, more extensively broken up fragments of the protein molecule. Let us first, in a brief and sketchy manner, follow the metabolism of the amino acids in the body.

The metabolism of the absorbed amino acids follows two courses, endogenous and exogenous, accordingly as they do or do not enter into the living tissues of the body. The endogenous metabolism consists first in the resynthetization of the amino acids brought by the blood stream to the tissues into the living protein of the protoplasm, and then of its disintegration and ultimate reduction to wase products. Death follows fast on the heels of life. The living protein is in a condition of unstable association in the complex colloid, protoplasm, and contains in its molecule phospholipins, and probably carbohydrates, salts and enzymes. This unstable complex can be made to decompose very easily, and a great variety of agents can decompose it. This decomposition of the living cell is the first step in protein disintegration, being immediately followed by digestion (hydrolysis) of the protein by the enzymes present. This digestion splits the protein into amino acids again, and these are further split up so that their nitrogenous element, after being separated from their carbohydrate element, appears as ammonia, and ultimately, in great part at least, as urea, in which shape it is chiefly eliminated.

The absorbed amino acids which are not utilized for growth and repair, and which are apparently superfluous, although they may serve as a reserve to insure an adequate quota, undergo exogenous metabolism, following the general course of the metabolism

of the amino acids which are produced by the catabolism of living tissue. The place in which occurs the reduction of the surplus amino acids to the forms in which they are finally excreted seems to be, in large part at least, the liver.

The metabolism of the sulphur of the body may be considered in connection with that of the amino acids, because most of this sulphur is introduced by the amino acid, cystin, which contains sulphur in its molecule. This sulphur is oxidized, and leaves the body mostly in the form of sulphates or conjugated sulphates. The sulphur element in the protein seems to take a particularly active part in the intermediate processes of protein metabolism, perhaps because of the ease with which it is oxidized; and it may hold an important relation to the respiration of the cell.

In this connection also may be considered the metabolism of the prosphorus of the body, which is found in the phosphoproteins and nuclein. Phosphorus is oxidized to phosphorous acid and leaves the body chiefly as the acid or as sodium phosphate. On a heavy meat diet the urine is strongly acid, because of the free phosphoric acid discharged in it, as well as the sulphuric acid; but on a largely vegetable diet there is less acidity because the phosphoric acid appears as phosphates of alkaline bases.

The endogenous metabolism of protein produces besides urea, the nitrogenous extractives, creatin and its derivative creatinin, and also the purins, including uric acid and its congeners. Creatin, which is a methylated amino acid, is a constant product of endogenous metabolism. Just how or why it is formed is not known.

The endogenous purin metabolism begins with the disintegration of certain of the conjugated proteins, notably nuclein. The nucleic acid element of this protein disintegrates into the purin bases, phosphoric acid and other substances. From the purin bases, zanthin and hypozanthin, uric acid is formed by oxidation.

The fragments of the protein molecule absorbed from the intestine which are not amino acids, have no connection with the processes of growth and repair, for the most part at least, and are considered and treated by the body as waste products, to be gotten rid of as easily and quickly as possible. These irregular protein fragments (so styled in contradistinction to the amino acids, which may be called the regular fragments, inasmuch as they are "building stones" which can be rebuilt into the protein of living protoplasm), belong very largely in two classes, which are exemplified by the nitrogenous extractives and free purins which are introduced with the food or split off in the intestine, and the various products of the putrefaction of protein in the intestine.

The free purins, of which zanthin, hypozanthin and caffeine are common examples, undergo in the body the regular metabolism of the body purins, which has been described in the case of the endogenous nuclein. The protein fragments produced by bacterial activity in the alimentary canal are extremely varied in character as well as quantity, depending on circumstances present in the gut. From among the meager collection of facts regarding these putrefaction products and their formation, which investigators have discovered for us, a few are selected for mention here. These facts bear on what seems to be a most important subject in its pathological relations and its dietetic indications, viz., intestinal toxemia.

Phenol and cresol are produced in the intestines, apparently from the amino acids tyrosin and phenylalalin, by the action of putrefactive bacteria, and they do not seem to come, according to Matthews, from decomposition of those substances in the tissues. They are excreted, for the most part, as conjugated sulphates. Phenol has been observed in excess in the urine in cases where there was indigestion of milk and cheese, whose protein contains a large proportion of tyrosin.

Indol is produced by putrefaction of the amino acid tryptophane in the intestine, and after absorption is paired with sulphuric or glycuronic acid and excreted as indoxyl potassium sulphate, otherwise known as indican. It does not seem to be formed within the body, or if so, is apparently destroyed there.

Scatol is also produced by putrefaction of tryptophane, and paired like indol with sulphuric acid, and excreted as a conjugated sulphate.

Cadaverin is formed from lysin by bacterial activity in the intestines, and putrescin from arginin. The intestinal bacteria can produce from histidin, tyrosin and typtophane, respectively, the highly toxic B-iminazolylethylamin, hydroxyethylamin and indolethylamin.

Hydrogen sulphide is released from the amino acid cystin by bacterial activity in the intestines, and is capable after absorption of dissolving the red blood cells.

Matthews, in his "Physiological Chemistry" (1916), makes the following statements, in substance:

The bacteria of putrefaction are found throughout the alimentary canal, though they are most abundant in the colon.

The contents of the small intestine are sometimes weakly acid throughout, and this action is unfavorable for the putrefactive bacteria.

The colon bacillus not only ferments glucose but disintegrates protein, producing indol, skatol and hydrogen sulphide.

The amino acids produced by the digestive enzymes are inert. Bacteria can split up these amino acids, and some of the split products thus formed are highly toxic. Some of these bacteria, by splitting off a carbon dioxide molecule from an amino acid, produce poisonous amines, of which the ptomaines are examples. They can also, in tearing apart these molecules, set free ammonia and leave fatty acids.

Some of the products of the putrefaction of protein have a powerful effect in raising the blood pressure. (Adrenalin is an amine of this character, derivable from tyrosin.)

"There can be no question of the importance of these putrefaction substances in the well being of the individual.

"The easiest method of reducing putrefaction is by a strict limitation of the diet, a reduction in the proportion of meat, and a more thorough mastication of that which is eaten." "Eat carbohydrate food—for the bacteria will not produce putrefaction products so long as there is carboyhdrate at their disposal." "By carboyhdrate fermentation acidity is increased, and this has a great part in checking bacterial putrefaction, since many barteria cannot metabolize in the presence of acid."

For the purpose of protecting itself against the absorbed toxic products of intestinal putrefaction,

the body has devised special methods. These methods have to do with rendering the toxic substances more stable and consequently more inert, and therefore more easily and safely gotten rid of by the body. One of these methods is by oxidation, when oxidation makes the toxic substance more stable; and the other when oxidation does not have that effect, is by union with a stable substance, or conjugation. The fatty acid radicles broken off from the protein molecule by the putrefactive bacteria unite very readily in conjunction with sulphuric acid to form conjugate sulphates. Indican, which is indoxyl potassium sulphate is an example. An other example of conjugation is seen in hippuric acid, which is a combination of benzoic acid with glycocol, for the purpose of preventing the benzoic acid from oxidizing into the more toxic phenol.

The facts of metabolism and of the biochemistry of the alimentary tract referred to in this brief statement are meager, but they serve to suggest the scientific basis for th diagnosis and treatment of conditions of nitrogenous metabolic insufficiency and of putrefaction toxemia of intestinal origin.

1218 Pacific Street.

THE ABUSE OF CATHARSIS AND LAXATIVES IN INFANCY AND CHILDHOOD.

LOUIS FISCHER, M.D.*
New York.

The daily administration of laxatives to infants and children is a common practice among many mothers and nurses. This is well known to most physicians. Indiscriminate drugging to cleanse the intestine and empty the liver is a daily routine, and this abuse is founded on the enormous amount of advertising matter which impresses the laity with the necessity of so doing. This practice is so common that it is rare to hear of infants or children whose bowels functionate normally. Drugs and correctives are used without any rhyme or reason to suit the whims or ideas of the person in charge of the infant. It is not an exaggeration to speak of this as an abuse of catharsis in children.

The daily use of drugs to stimulate the internal secretions and cleanse the gastro-intestinal tract is necessary in acute febrile conditions. It is indicated in toxic and septic conditions. It is also indicated in traumatic conditions and emergencies. It is well known that many glands lose their functional activity during fever, and we can stimulate their function by catharsis. Stagnant residue and fermenting particles of food require elimination. This is especially true in intestinal intoxication accompanied by fever caused by excessive fat or protein feeding. In this class of cases the subnormal condition caused by the fever demands especial attention.

Attention is invited to the infant or child who is given a daily laxative to modify constipation, obstipation or coprostasis as a routine practice, instead of modifying the diet and adapting the same to correct the condition.

It does not require deep research to understand that by the constant use of laxatives functional activity of the intestinal glands will soon be impaired—that the tone will gradually be lost. Peristalsis can be stimulated and aided in many ways other than by drugs, and it is because of the large number of infants who daily receive a cathartic dose of medicine that I am urged to invite your attention to the subject.

While we may attain the object of cleansing and eliminating fecal particles we frequently interfere with the normal process of digestion and assimilation and deprive the system of nutrition intended for growth.

I believe that excessive purgation weakens the glandular functions and robs the system of ferments and enzymes necessary for the proper assimilation of food and thus indirectly inviting rickets and weakened structures due to faulty metabolism. Thus it can be seen that instead of doing good by the continuous daily laxative dose of cathartic medicine we can do harm thereby, besides lowering the ability of the digestive tract to functionate as it should in health.

Rachitic atony of the musculature simulates constipation. The stagnant fecal contents can only be propelled by stimulation of the gut and restoring the needed tone. It is in this class of cases that cod-liver oil is so efficacious.

The well known results of thyroid therapy, in sporadic cretinism and their specific action on the constipation accompanying this disease needs no emphasis from me. The administration of ¼ grain thyroid three times a day, and gradualy increasing the same until one grain is given three times a day, has acted beneficially in quite a number of cases.

The daily administration of a soap-water enema should also be condemned. The warm water relaxes the muscles of the intestines, and if persisted in will produce an atony of the intestines with a tendency to prolapse. A cold enema, temperature of 60 to 70 degrees, has a stimulating and tonic-effect. Not more than one pint is given at bedtime, or before the second morning feeding.

The importance of water in the diet is not sufficiently emphasized. Fresh, cool water will aid in eliminating food residue if given between meals, several times a day. Water added to the food is not sufficient.

For the older child the mechanical stimulus in the atonic gut can be given to food by the addition of bran to cereals, or by the use of figs, raisins, whole-wheat bread and the coarse cereals, such as oatmeal. Vegetables, such as chopped spinach or chopped stringbeans—the green vegetables rather than the starchy cereals such as potato, should be given.

*Abstract of a paper read before the Section of Children, Atlantic City, June 10, 1919.

HEALTH PROBLEMS IN THE RECONSTRUCTION PERIOD.*

ROYAL S. COPELAND, M. D.,
HEALTH COMMISSIONER OF THE CITY OF NEW YORK.
New York.

In one respect, and one only, I am like the old Roman senator, who no matter on what subject he was speaking always insisted that Carthage must be destroyed—*"Carthago delenda est"*—so now I make no speech without some reference to the narcotic drug problem. There is no problem relating to public health that is more in need of discussion than the

*Address delivered before the Society of Medical Jurisprudence, New York, April 14, 1919.

administrative problems in connection with the drug evil.

As I came out of my office the other evening into the waiting-room of the Health Department I saw in one corner a crouching figure, a wretched looking creature with clenched hands. I said to him, "What do you want?" He said, "Morphine." I then said, "I want to talk to you," and I took him into my private office. In order to gain his confidence I told him that he would he given the drug for which he was asking, under certain conditions. I found that he was from a fine Southern family, a college graduate, and had acquired the drug habits in the Philippines. I asked him whether he knew many men who, like himself, had the drug habit. He knew 200 drug addicts in the munition factory where he worked. The police department thought at one time that there were about 10,000 addicts in this city, but this is very far from the actual number. In the month of December, 33 drug stores sold 36 ounces of narcotics, 30 grains a day for day days of the month to 2,000 persons. During the month of January one drug store sold 585 ounces of narcotic drugs, while the sales in February were in excess of those for January. The sales were so large, and especially the sale of cocain, that the Board of Manufacturers was forced to place a limit on the amount sold to one purchaser at wholesale. Reliable estimates place the number of addicts in this city at from 100,000 to 200,000.

The Federal department has just raided a number of drug stores and arrested a number of physicians for violations of the Harrison law. Judge Porter states that these offenders used more than 1,500,000 prescriptions in less than one year's time. Three of the men arrested had taken from the Narcotic Drug Commission 150,000 prescription blanks. As the result of the raid which deprived addicts of their physicians hundreds of victims were turned on the streets with no place to go for their drugs, so, as had been planned when the raids started, the Health Department arranged a clinic where these addicts could be cared for. Within the last few days hundreds and hundreds of drug victims have come to this clinic for relief.

Now the question which presents itself is the question of administrative control of the evil and just exactly how these poor devils who have the drug habit may be humanely cared for and at the same time how we can protect society from these addicts without actually adding to the amount of drug addiction in the community. You see, it is a very difficult matter to determine upon a method by which we can give relief to these patients without actually increasing the amount of drugs which they would otherwise receive. For instance, unless there is some safeguard, patient "A" will come to the Health Department and get 20 grains of morphine and then he will go to his ordinary source of supply and get 20 grains more, so unless we have some means of checking these people up instead of helping to solve the problem we will actually increase the amount of drug addiction in the community.

I am very clearly of the opinion that we will not solve the problem unless there is some more accurate method of identification devised. The taking of photographs—"mugging," as it is called—and finger printing have been suggested. The objection to these methods has been raised that it puts the addict on a level with criminals, and both the police and health departments hesitate to adopt this method unless it is absolutely necessary. We had a conference on this subject at the Health Department at which were present Senator Whitney, Deputy Commissioner of the State Commission Hon. Walter R. Herrick, Narcotic Drug Commissioner Judge Collins, representatives of the police department and a number of others interested in this problem. As a result of this conference it was determined that Albany was too far from Broadway, that the Commission should have an office in this city. As no appropriation was made for this purpose, at the invitation of the Board of Health the Drug Commission will be installed in the Health Department Building, so that they will be enabled to get a near approach to their work in this city. We will also give the Drug Commission the assistance and co-operation of the Health Department. I shall be very glad to get from this society some suggestions as to appropriate means of identifying these drug addicts.

Mugging and printing would be very humiliating to many people; and it is not a question of dealing with the underworld. When we get them we can mug and print them immediately and they make no protest. They are so keen to get their drug that they would commit murder or resort to almost any means to attain their object. We must remember that there are rich people and people who are respectable members of the community who are the victims of the drug habit, and when we talk about a method of identification for the drug addict it must be one that is applicable to all classes of society—to the rich and poor alike. There must be some system worked up for the identification of these victims, or else the legitimate practitioner of medicine will hesitate to treat them and then the illegitimate practitioner will get them by violating the law. This is no easy problem, but it must be worked out, and if I am not murdered or otherwise interfered with I am going to cut the heart out of this monster before I leave the office of the Health Commissioner, but I want to manage it so that no deserving man be injured while doing this.

Another problem is the venereal disease problem. I think the United States is alive as never before to th need of taking masures to prevent the spread of venereal diseases. We are awakened to this need by the fact that in the first draft of 10,000,000 men examined, 425,000 had syphilis and 2,225,000 had gonorrhea. In one day last May in the cantonments of this country there were 60,000 young men unable to report for duty because of venereal disease. During the war, when every ounce of man-power was needed, 2,295,000 days service was lost; that is 6,000 years, on account of disability due to venereal disease. That is the condition with reference to venereal diseases.

There are 8,000 merchant marine sailors shipping at this port, and only 2,000 of these are citizens of the United States. These citizens of the United States can be treated by the United States Public Health Service, but the 6,000 foreigners cannot be treated by the Public Health Service under the present laws. Reliable figures show that 3,000 of these 6,000 foreign merchant marine sailors have venereal disease of the worst types. This means that you use the same door knobs and hang on the same straps in the cars as these men use. We are working out a plan through the co-operation of the Merchant Ma-

rine, the Public Health Service and the shipowners for some way of treating these cases. Through the co-operation of the shipowners we will learn when a sailor lands here with venereal disease and then we contemplate caring for these cases that cannot be handled by the Public Health Service.

In connection with this problem the question presented itself, "How are we going to handle those patients who refuse treatment?" There is a law in this city, the successor to the Page law, which provides for the care of women only who are affected with venereal disease, but not for both sexes. We have now amended this law so that any person suffering from venereal disease can be committed by the Health Department and held until cured. We have now 175 such women under the care of the Health Department on Ward's Island, and a small number of men have been arrested and are under the care of the Department of Charities. The feminists thought that the law was not fair in that both sexes were not placed on an equal footing and had criticised the law. Though there are some defects in the law in the eyes of the Public Health Service, I may say that the amendment was put in the law without my knowledge. Some of the officials went to Albany and had this amendment passed so that any person suspected of having venereal disease could be kept under custodial care, not only until the physical examination was made but until the laboratory and blood tests could be determined. It was a pretty rigid law and was thought by some to be an infringement of the personal rights of the individual. A good many people thought that there was a great deal of interference with the rights of the individual when he could not get his morphine or his cocktail, and this law still further limited personal liberty. I am not sure what would happen if an individual was held under this law someone took out a writ of habeas corpus; but that is the law, that we can hold a man until the presence of venereal disease is determined. There is now a most harmonious co-operation between Federal, state and city health authorities and the Police Department, and every attention is being given to the subject for the best needs of the community.

There is another matter worthy of the thought of the Society of Medical Jurisprudence, and that is in reference to a larger supply of pure milk at a less price than the people are paying at present. The present consumption of milk in this city is 2,000,000 quarts daily, and if this were put in quart bottles it would make a row of bottles around Manhattan Island and then another and still another row, that is when a normal amount is being consumed. By reason of the high prices the amount of milk consumed had fallen from 2,000,000 quarts to about 1,700,000, and only about 700,000 quarts are being used for feeding infants and as a beverage in the homes. Most of the decline in the sale of milk is in that particular item, and that is a very serious thing for the community to have such a decline in the only possible food in infancy and a very essential food in the early years of life. There have been introduced into the Legislature 59 bills having to do with the milk supply of this city. I am wondering why this organization cannot use its wisdom in directing the state as to what could be done in this particular matter. I served for twenty-four hours on the Government Milk Commission, but resigned when I found that the only problem was how to divide 16 cents between the farmer and the distributor. I did not care whether the farmer got 7 cents and the distributor 9 cents, or whether the distributor got 7 cents and the farmer 9 cents. I do not think anybody wanted the farmer to take 8 cents if he should have 9, or that he should be given 9 cents if the milk was worth only 6. When there was a strike among the employees of the rival milk companies I saw them fuse their forces and help each other out during the strike. One company would see that the customers of another company were supplied, and I believe that by adoption of some such plan as this that would save the duplication of work and would avoid having two companies cover the same route, would help in solving the milk problem.

People use milk bottles for varnish, oil, etc., and in many ways there is great destruction and loss of bottles. In fact, there are many defects in the distribution of milk that might be remedied. I believe it is possible to sell milk for three or four cents a quart less than we are paying at the present time—and what could be of greater value to the children of the city than an increased supply of pure milk? The farmer ridicules Pasteurization and the rigid restrictions of the Health Department guarding our milk supply, but in support of these all we need do is to point to the fact that we have the lowest infant mortality of any large city in the world, and that means that some force is at work in this community that markedly distinguishes it from other communities, and that force is the care with which the Health Department guards the milk supply. The Smith-Dodge bill gives the city the power to engage in the distribution of milk; it gives any city the power to buy and sell milk. In entering into such an enterprise I am not sure that the city would be entering upon any socialistic plan, as will may be considered as a public utility, and under certain conditions it might be a suitable function of the city. I have a friend who says it is perfectly possible to build a twenty-four-story building to keep cows and that the whole business of producing and distributing milk could be carried on by the municipality.

I came into the office of the Health Department one year ago and found that there was an appropriation of $63,000 for industrial hygiene. I said, "Why are you not using this money for industrial hygiene?" I was told that it was a question whether industrial hygiene was a function of the state. I said, "I do not care whether industrial hygiene is a function of the state or not, you must spend the money in that kind of work."

I feel that the next six months of the most important in the history of the city, in the history of this country and in the history of the entire world and unless we rise to the responsibility of looking after our industrial population no one can tell what the future will bring forth. I am convinced, however, that some solution will be found for the great social unrest that is prevalent throughout the world. I think there is need of some industrial change. Just as an instance, we find that tuberculosis is twice as frequent among workers in woolens as in certain other occupations and we must meet the question why these workers should be subjected to twice the risk of getting tuberculosis as you or I. The people working with their hands are just as much entitled to long life as those engaged in other kinds of work. In the Health Department Building we now have an

office giving its attention to the health of industrial workers. Here we now have 50 men and women making the examination of workers and of the environment under which they work. We hope as a result of the work of the Division on Industrial Hygiene to change the longevity rates among this class by increasing the length of life.

The last topic upon which I wish to speak is garbage disposal. This is a very important matter, and in the settlement of the questions connected with it, lawyers as well as doctors and the good sense of the entire community are needed. Soon after I entered upon the duties of health commissioner I spent three days in the court over on Staten Island listening to the testimony of the citizens brought out by reason of the reduction plant on that island. After we had listened to testimony for three days and had felt the sentiment of the community and found them unanimous in condemning the plant, there were still a courtroom full of people to testify. Realizing how long this would take, the oath was administered to 151 persons and they were then asked if each one had the opportunity to testify if he would testify to the same material facts to which the other had testified. They all stated that they would substantiate the testimony already given.

It thus seemed that on this subject of garbage disposal there was no disagreement, it being the unanimous opinion that the disposal of garbage by reduction was a public nuisance. The suggestion was then made that the reduction plant be removed to Barren Island, and the whole Borough of Brooklyn rose up that garbage disposal by reduction was a nuisance. I am satisfied that no one borough wants all the garbage pails of the city taken to its door, and I am also satisfied that reduction is not practical. In South America, in Montevideo and Buenos Aires and in other cities, they had a method by which they disposed of garbage, ashes and other refuse without any inconvenience to the community. The garbage plant in Montevideo is seven blocks from the city hall. Lawsuits for damages are underway because of depreciation of property due to the presence of the reduction plants and legislators are drafting a bill which will mean that no city of 100,000 or over can have a plant for incineration or reduction.

ABSTRACT OF DISCUSSION.

Dr. J. P. Davin:—I would like to know who was behind the bill providing for locking up any one suspected of having venereal disease. I ask that because it has been my experience that if you can find who is the author of a bill you can find out what it means and who is to be benefited. Now I would like to know what is to be gained by locking up people with venereal disease. The Health Department has taken the place of old Dr. Grindle. It has succeeded in removing his advertisements from the newspapers and has put in its own advertisement. The Health Department can advertise to treat venereal disease and that has always been the prerogative of the quack. The United States Government has appropriated $1,000,000 to help carry on the work of the prevention of venereal disease in the various states. The function of public health seems to be to exploit the work of medical men. Public health authorities are appropriating the knowledge that is the result of private individual work and are exploiting the medical men.

We have a health bill for the protection of the working man, and "Why?" Hasn't the medical profession always cared for the poor man?

What does an examination of the blood show? A Wassermann reaction does not mean anything in particular. Nature is kinder to these people than the Board of Health. They are exploiting the medical profession and having exhausted the flesh pots they are turning to the garbage cans. There are over 5,000 physicians in this city who care for the people's health, and the health of the people does not suffer when it is left to the medical practitioner. The workman's compensation was the result of the exploitation of the medical profession by the politicians. The sick poor are not helped by it. The medical profession are with their backs to the wall and at the mercy of politicians and hysterical women.

Pres. Ehrhorn:—Some years ago I read a paper before this organization upon the desirability of the Harrison law. At that time I said it was unwise to attempt to control a new form of disease in the shape of habit forming drugs. I said that I had not seen more than six cases in 25 years, that cases of drug addiction were very few, and that I was in a position to speak as I had a large practice. We passed the law and the things I said would happen did happen. Instead of the law suppressing the sale of habit forming drugs it encouraged it. Weak minded men and women found they needed these drugs, and where such a demand was created there would be people ready to pander to it. If these drugs were difficult to obtain and people made up their minds that they must have them, the men who pandered to the demand would ask extra high prices since the market was limited. Then the next step would be to make a market and in order to do this all they had to do was to put the drug up in the form of candy and in other ways that would be striking to older people and in this way a demand was created and five cents worth of morphine could be sold for five dollars. I have had no experience in carrying out the law because I treat no such patients, but I am sure if these laws were wiped off the books in the course of 10 years we would get back to where we were twenty years ago.

Now about the milk.—They tell us about combinations of farmers and combinations of dealers. Why not try competition? James Taylor Lewis, Esq.:—The city of New York is to be congratulated in having a man with a most enviable reputation in his profession as the head of its Department of Health.

The thing I am interested in among the five or six subjects brought up is drug addiction. In large communities there are a large number of men given to the taking of narcotic drugs. One of the biggest blunders the Legislature ever made was to take cocoaine from where it belonged and put it among the habit forming drugs. It was not so very long ago that men realized its importance by putting cocoaine in the felony class. Three or four years ago it was taken from the felony class and put into the misdemeanors. That was a great mistake.

Several years ago I was called to a distant town by a doctor who was undertaking the care of men who had been ruined by morphine. I was told by the doctor that these men were sick men. The trouble is we have never made sufficient study of drug addition as a disease. We have not studied the victim of the drug habit. When a man has the drug habit it interferes with the nervous system, with the heart's action, with the functions of every organ of the body and with a man's entire life. He is a sick man and not a criminal. I heard a doctor a few minutes ago say he did not treat drug addicts. Why not? Have you no back bone? You should treat these people. No court will undertake to and no court can successfully prosecute you so long as you are acting in good faith. Some doctors have an idea that the law prohibits them from giving more than a certain amount of a drug to a patient; so long as you are treating a patient in good faith and helping to cure him there is no rule about the amount of the drug. The Court of Appeals says in reference to negligence actions that you are within the law as long as you use your best judgment. In treating these men you must study them. If a man comes to you and say she is only taking 15 grains a day, you can not always be sure from his symptoms whether or not he is telling you the truth. Just keep such a man under our supervision and watch him for several weeks if necessary and then make your diagnosis.

As for the laws—we had first the Harrison law, then the Boylan law and next the Whitney law. There is not one doctor in fifty who is familiar with all the provisions of these laws. The Harrison law is the nearest to perfection for the control of narcotic drugs of any law of this kind. I was called upon to write an opinion as to whether the Whitney law and the Harrison law were constitutional, and I wrote my opinion before the Federal Court passed its final opinion. I stated that the law was unconstitutional. The Supreme Court of the United States said it was constitutional, five to four. I still think it is unconstitutional, because it allows and requires the disclosure of confidential communications between a patient and his physician. So far as the constitutionality of the Whitney law is concerned, it is similar to the principle involved in the individual's right of contract which was not granted under the State Constitution but built up by legislative enactment.

The right of secrecy and protection of ones good name I believe is a property right of which the individual may not be divested except by due process of law. The Attorney General of our state is the one you must follow in interpreting the law until some one brings a test case before the Court of Appeals and until it is there decided whether or not the provisions of the so-called Whitney law violate constitutional rights of individuals.

Dr. Fineberg:—The people do not give their public officials the support and coöperation they should have and that is why you cannot get good men to serve the public with intelligence and that is why you are having trouble with the garbage and the milk and the narcotic drugs, etc.

If you want to cure the drug evil open clinics and dispensaries and treat these people with care in the general hospitals. You cannot show me a drug patient who has been cured in any other way than by patience and long continued treatment. No drug addict treated for two weeks is cured. None can be cured in less than 18 months to two years. We should provide proper hospital care for these drug addicts and they should be wards of the State until they are cured.

For the people who are carrying venereal infection we should open the general hospitals, public hospitals, or places of detention where they could be kept until they were cured.

Judge Ommen:—The Health Commissioner wants to know how drug addicts may be identified. If the average criminal is an addict, and I think that is true from my experience when on the criminal bench, it seems to me we are a little outside of the question of constitutional rights. We must consider the rights of the rest of the community. If it is true that we register a man who has typhoid fever, or smallpox there is no reason why a similar rule should not apply to the addict for the addict is illusive and cannot always claim constitutional rights against the rights of the people. We will have to have identification and the police believe that finger-printing is the best means of identification. The Court of Appeals has convicted a man on the evidence of finger-prints; that has been established by law. If the addict is a menace to the community then he should be taken care of just as the person with a venereal disease who is a menace to others.

If a person is convicted and has venereal disease he is finger-printed, whether man or woman. Why cannot that be done on the certificate of three physicians that a person is a drug addict. Two physicians can certify that a man is insane and apply to the Supreme Court and if the two physicians say that the man is dangerous the court will issue a commitment. If on the certificate of two physicians a man can be committed for insanity why not commit a man on the certificate of physicians who have had him under observation for five days and find him an addict and a danger to the community. Such addicts should be finger-printed and I do not see why there should not be a bureau where records are kept as for any other disease. Such records could be kept in such a way that the average person could not read them and yet the expert could read them.

Finger-prints always furnish an excellent record; even after ten years you can still identify a man by his finger-prints. I have known men to cut off the ends of their fingers and to apply acid, etc., and still their finger-prints served to identify them. I do not think anything can be done by a system of registration or by mugging. The mugging seems rather severe, but to have a person touch a piece of carbon paper is such a very simple matter. After three physicians have investigated and certify that a man is an addict finger-printing would be no violation of his personal rights. When the Health Department takes the course that a certain thing is necessary for the good of the community the Court of Appeals upholds it. If you will go over the records for the past ten or fifteen years you will find 100 decisions rendered because it was necessary for proper police power or necessary for the health of the city.

Dr. C. F. J. Laase:—I want to congratulate Dr. Copeland because he is the first Health Commissioner who has taken an interest in the question of drug addiction. One of the main objects in the solution of this problem is to do away with the illicit traffic carried on by the under-world peddler, and this can only be done by encouraging the drug addict to get his drug at an honest place. Everything that drives the addict away from the legitimate practitioner of medicine drives him back to the underworld and one of the things that will drive him back is finger-printing, mugging and registration. The doctor can pretty well pick out the man who is dishonest and is going around from one doctor to another and then becoming an illicit peddler. It is the duty of the Health Department to get this class of men in its toils.

The important point is to cure the addicts and that can only be done by encouraging the honest doctor and the general hospitals to care for the drug addict. An addict because he is an addict is not a menace to the community, and an addict who is a criminal is a menace not because he is an addict but because he is a criminal.

Dr. Bishop:—One mistake at the present time is to attribute the panic we are having to the arrested physicians. The greatest panic is from the newspaper publicity about finger-printing, mugging, branding, etc. I saw a dear old lady completely prostrated because she feared she would have to be finger-printed. No good is being accomplished by frightening addicts in this way. It is true some have been made addicts by the doctors in spite of what has been said. This panic is not the result of what doctors have done, but it is because of the newspaper presentation of the horrible sights that are seen among the drug addicts that are arrested. As for the doctors that have been arrested, they may have deserved arrest, and if they did the honest doctor will be on the side of the Federal authorities.

It seems to me the Health Department is usurping the powers of the Police Department. The functions of the Health Department are to educate people and to protect the community against contagious disease. The disturbance that would be created by identification of drug addicts would be horrible. There are judges and lawyers and doctors who are drug addicts. Anyone who takes a narcotic drug for a certain period of time becomes an addict. What has been said about the underworld group is quite right, but this group constitutes only about 10 per cent. of the total number of drug addicts. We are getting statistics from Washington that are going to make some people ashamed of themselves and when they see the truth they will get to work and handle the situation as it really exists. Many addicts are defective and many who are not addicts are defective. We talk about drug addiction and we talk about the cocain habit and many people do not know that cocain is very different from the opiates. The cocain habituates and the morphin habituates are entirely different. All this has been proved by laboratory work, by experiments worked out on animals. There is a tremendous amount of practical tangible information available and the newspapers would be doing better if they gave real facts, instead of writing as they are now doing. I believe finger-printing would cause a frightful disturbance among decent, respectable people and will not help us in solving the drug problem.

Dr. Copeland, in closing:—It is very easy to rush into print and criticize public officials and then wonder why so few good men will accept public office. When the Mayor asked me to become Health Commissioner I had only seen him a few times. I have not even voted for him. I told him that I would not afford to accept the position, and also that I did not know anything about it, but I find out now that I feel as though I had been born there. I said to the Mayor that I must decline the office. The Mayor said "I have offered you the biggest job in the United States today, to keep the big army clean coming and going. I then accepted the office as a patriotic duty, but I am going to quit it very soon.

When a man wraps himself up in his professional cloak and says he does not treat drug addicts that man is a moral and a professional coward. Some rush into print every time they can get a paper to print what they have to say and say that the Health Department wants to exploit some cure instead of giving the Health Department the support it should have. What do we want to exploit? I want every individual case of drug addiction to be treated as a patient with disease and as a human individual. We are taking these people to North Brothers Island to try out various methods and systems. Every patient is given a careful physical examination to find out whether he has rheumatism, heart disease, eye-strain—or what not. The city official who is going along doing the best he can and feeling his way wants hearty help and advice and not criticism. When the citizens awake to the fact that their public officials are entitled to the support of every citizen, then we will get good men well qualified to hold office.

Many things were brought out tonight that I would like to enlarge upon for this matter is one of the greatest importance, but the time is too short. The Health Commissioner has not proposed finger-printing, mugging, etc., for drug addicts. He has simply asked for advice, and I think some have offered advice in good faith. For this I thank them. One thing I am determined upon, and that is that regardless of the attitude of the community I am going forward to do the best I can in the solution of these problems.

A STUDY OF SPANISH INFLUENZA.

Treatment With Anti-Plague Serum.

DOCTOR E. FOLLEY,
Paris.

An epidemic, commonly known as "Spanish influenza," has been prevalent all over the world. The forms which it assumes are so strange and inconsistent as to warrant the general belief that several distinct epidemics are prevailing at one and the same time. After careful perusal of a number of French and foreign treatises on this subject, and after examining a considerable number of sufferers, we are justified in coming to the conclusion that we are simply in presence of one and the same disease which is likely to show the following symptoms during the course of its development:

(1) Diminution of arterial tension, the tendency mainly being towards minimum tension.

(2) Irregularity of and variations in the strength of the pulse.

(3) Weakening and even imperceptibility of the first sound of the heart.

(4) Precocious cyanosis of the finger-nails.

(5) Enlargement of the spleen, slight enlargment of the liver.

(6) "Sargent's white line," earthy hue of the teguments, scowling countenance, considerable asthenia, pupillary oscillations, persistent sleeplessness.

(7) Slight delirium when the temperature is very high; it frequently increases when the temperature drops. Sufferers are subject to delirium when their temperature is normal.

(8) Irritability, contrasting with the intellectual torpor of the sufferers. Considerable difficulty in collecting one's thoughts and in formulating ideas. Distressing forebodings of death, sadness and violent fits of fear.

(9) Signs of the lungs being affected, but in no precise locality; this varying as and when the sufferer changes his position; the sloping portion of the lungs is affected when the sufferer is in a standing posture, and the back when he is lying down.

(10) The expectorations in the majority of those forms with pulmonary localization are frothy and contain thin streaks of bright red blood; they then assume a rusty or dull red hue, which subsequently changes to whitish or greenish.

(11) Slight diarrhea in the majority of cases, of a fugitive and typhoidal character; constipation in other cases. Hemorrhage in the alimentary canal.

(12) Urine clear and abundant; it never has the appearance of the so-called "febrile urine"; hematuria rarely occurs.

(13) Hemorrhage is likely to occur in any of the mucous membranes (epistaxis, etc.).

(14) Cardiac syncope, preceded by the slowing and weakening of the pulse, is of extremely frequent occurrence during the course of his disease. Death always takes place as the result of cardiac syncope and may occur in cases which are apparently very mild.

This symptomatology points to a specific disease for two reasons: (1) the majority of these symptoms are noticeable in practically all cases of Spanish influenza; (2) all of these symptoms may be reproduced in man by inoculation with the expectorations mingled with blood, produced by persons suffering with the disease.

On October 27, 1918, I had my left thumb bitten by a rat while I was daubing its snout with the expectorations mingled with blood of a female patient who was very seriously affected by the disease.

The next day cyanosis was noticeable in the fingers of the left hand, the beating of the pulse in the radial artery was no longer perceptible, and a sensation of intense cold was experienced. The right arm remained unaffected. Fits of fainting and of bradycardia occurred.

From October 29 to November 4 several fainting fits took place; pronounced lack of tension, irregularity and fluctuations in the strength of the pulse became apparent. On November 4 a swelling appeared in the region of the bite which at no time resembled an abscess in any respect and which remained until the end of December. The irregularity and fluctuations in the strength of the pulse increased. Considerable asthenia, the earthy hue of the teguments and "Sargent's white line" persisted for about ten days.

About November 15 a short, unfrequent cough became noticeable, producing a few frothy expectorations containing fine streaks of bright red blood. In the left base of the right lung, inspiration and expiration produced a blowing sound, the vesicular murmur became inaudible, while dyspnea and a sensation of constriction of the thorax were experienced. "Sargent's white line" disappeared, persistent sleeplessness, intellectual torpor and considerable asthenia were noticeable; abundant polyuria, with clear urine.

Up to December 12 these symptoms increased in intensity. My condition became alarming; adrenalin, strychnin and all cardiac tonics failed to produce any effect. On that date a serotherapic treatment of anti-plague serum was commenced. At that time the symptoms were as follows:

Hypotension, fits of coughing and slow action of the heart, irregularity in the strength of the pulse, which at times became filiform. Total disappearance of the first sound of the heart. Spleen twice its normal size. Earthy complexion, reappearance of "Sargent's white line." Vitreous appearance of the eyes, irritability at the slightest noise, asthenia, impossibility of thinking, loss of memory, diminution of consciousness, fits of polypnea. Pulmonary signs identically as before. Urine very abundant. Diarrheic stools. Constant syncopal tendencies with fainting fits at intervals. Abnormal pupillary reflexes. Extremely painful tumefaction of the left thigh on the inner side, at the same time as pains in the muscles and joints.

This laboratorical mishap caused a disease wherein all symptoms of the epidemic now being discussed were reproduced. During the first stage of this disease I succeeded in isolating a coccobacillus in the swelling on the thumb, and during the final stage it was rediscovered in my venous blood by collecting at least 40 c.c. in a globe of 200 c.c. capacity. The blood was left standing at a temperature of 54 deg. F. for several days. A white film formed on the surface; fragments of this film, after being placed in the usual prepared nutrient media, yielded cultures of bacteria possessing certain characteristics whereto we shall revert later. These colonies consist of a small mobile coccobacillus, with bipolar coloration and of a non-adhesive nature.

Rats and guinea-pigs appear to resist inoculation.

On the other hand mice are extremely sensitive thereto and are subject to fits of cyanosis, dyspnea, polypnea and agitation. These fits become more frequent and of longer duration. Finally, after having passed through a period of intense excitement and lost all sense of balance or equilibrium, the animal passes into a state of complete prostration with cyanosis all over the body. Respiration is then imperceptible, while the heart beats at long intervals. The animal moves when touched and runs about when pinched. The temperature drops, the animal's movments constantly decrease and it finally dies. In the case of a mouse the total development of the disease extends over about one month and a half. The coccobacillus of Spanish influenza is only constantly met with in the nervous centres of mice.

The coccobacillus has been successfully isolated in the case of a great many individuals affected by the epidemic. It is a noteworthy fact that it generally disappears from the blood in circulation when complications exist and rises in temperature take place. Certain symptoms of this epidemic resemble hemorrhagic septicemia; the cultural characteristics of this coccobacillus are accountable for this resemblance. It was therefore logical to employ a serum obtained with a microbe of this group, the anti-plague serum, for example, which is always available. As a matter of fact, this serum protects mice against inoculation by the coccobacillus of Spanish influenza and even cure mice which are already affected by the disease.

After the first injection of 25 c.c. of anti-plague serum, my fainting fits and other circulatory phenomena disappeared. In consequence of the advanced stage of the disease, however, it was necessary to use the contents of ten bulbs in order to effect a complete cure. Patients suffering with pulmonary complications have been most successfully treated with the same serum, while others, suffering with nervous forms comprising ataxo-adynamia, etc., have had the satisfaction of seeing their disorders rapidly disappear. Since I adopted this treatment in the form of intravenous injections for patients suffering with fainting fits (syncope) and in the form of subcutaneous injections, in other cases, I have not had a single death among my patients suffering with Spanish influenza; indeed, their period of convalescence has been remarkably short.

We would call attention to the fact that this disease, whereof the symptoms are well defined, has nothing in common with the feverish elevation which Nicolle and Lebailly produced in certain subjects by injecting a filtered solution of expectorations. The development of the disease, described in the present notes, takes place without any considerable rise in temperature, the period of incubation is very short, whereas the above-mentioned authors noticed a high fever and an incubation lasting from five to six days.

114 Boulevard St. Germain.

BERI-BERI FROM A LAYMAN'S VIEWPOINT.

J. W. REDMAN, F.R.G.S.,
METEOROLOGICAL LABORATORY.
Mount Vernon, N. Y.

I am not a physician, but I have learned several things about humanity and its ailments that are worth the while. As a matter of detail, I feel confident in saying that I know beri-beri when I see it. Contact with the sore-eyed Oriental in semi-tropical regions has given me certain knowledge about his ailments that the doctor, living in the land of plenty, does not always get. I am inspired to write in this vein because of two typical cases of beri-beri at hand.

Neither case has resulted from poverty. The patients are more than well-to-do. Both patients are educated; they have plenty of the knowledge that gets one nowhere. In each case, however, the malady has resulted from ignorance of the most elementary principles of living. In the one case the patient is the sort of character that is fascinated by newly sprung fads and delights to follow them. Patent foods with calories is one of them. The other is a patient who conceived it a patriotic duty to "save food and win the war." It was a clear case of conscientious devotion. Degerminated corn and polished rice did the rest. Both patients are now doing well. They are likewise blissfully ignorant of their malady; so also are their physicians, to all appearances at least.

I do not know whether beri-beri and pellagra are on the increase, but I strongly suspect that they are. Moreover, I have a lurking suspicion that a considerable proportion of the cases reported over the very polite name of peripheral neuritis, or polyneuritis, are just plain cases of beri-beri. In the squalid quarters of tropical cities of the Orient beriberi and xerophthalmia are pretty well hand in hand. Still more, I likewise suspect that the apparently increasing number of xerophthalmia cases among children also indicates that beri-beri—pardon me, I should say "Polyneuritis"—is likewise increasing. If so, it is not confined to the poverty-stricken and the destitute; it is quite as prevalent among the well-to-do, intelligent but ignorant.

Whether or not the two ailments are different expressions of the same disease need not be discussed. Whether they are merely deficiency ailments or germ diseases is not a question for argument. The effect is malnutrition; the cure is a properly balanced food ration. Under such treatment fat-soluble A, and water-soluble B, will take care of themselves.

One thing seems certain: The food profiteer with his damnable products that are deprived of everything but calories is more powerful than the law. Education is apparently the only hope whereby such beasts can be driven out of business.

There are manufacturers of foodstuffs aplenty whose outputs are 100 per cent honest and good. There are others aplenty whose stuff long ago should have landed them in the penitentiary. The pinching sacrifices which millions of people stood in order that their children at the front might have wholesome food were made cheerfully, and in the spirit that God has commanded. The two cases of beriberi noted are clearly due to food products that have been deliberately robbed of their nutrition by manufacturers who have learned that they can defy any law that has been made. If, in the future, the unreasoning but thinking element of population should be driven to Bolshevistic acts, it will be because of the hellish practices of law-breakers of this sort.

It is worth while bearing in mind that calories are not food and that they have nothing to do with nutrition. If one desires calories merely, it will be vastly cheaper to drop patent foods and use crude petroleum. Its value is about 17,000 calories.

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Abraham Jacobi.

The versatile and much loved "Nestor of American pediatrics" was a great figure regarded from any angle —whether seen as beloved physician, as pediatrician, as citizen or as leader. But somehow, to us, it was not in any of these later capacities that he appealed so much as in the character of the young revolutionist, chained for two years in a dark cell (from his twenty-first to his twenty-third year). The Jacobi behind prison bars was the greatest Jacobi of them all, for he was then the sincere radical, punished for striking a blow directly at those things the overthrow of which would have made much of his conservative career unnecessary. He and his fellow revolutionists of that day failed, but they tried, and by that fact placed themselves immeasurably above the rest of their fellows. It is to Jacobi, the young radical, that our greatest homage goes out.

It is to the youthful figure in that cell of long ago, with heart and mind blazing to release the oppressed, that we waft our farewell.

The Financing of Research Work.

A Brooklyn educator has pointed out the undesirability of waiting for some wealthy citizen to die before medical research projects can be properly financed—or for anybody to die. His idea is that people ought to contribute regularly to such projects before they die, in accordance with their resources, good will, and intelligent understanding of the requirements. He thinks a campaign of re-education is in order in this province of human endeavor.

Men are willing during their lifetime to contribute to education, the church, and all sorts of other necessities except medical research, although it is true that something is done in this domain by a few people who care little or nothing for posthumous fame as the founders of endowment funds and of institutions of various sorts. The memorial business is overdone when contrasted with living performances; immediate need waits upon vanity.

Propaganda along this line would find a host of generous souls *alive* to the subject, for what family is not visited sooner or later by some gruesome affliction in the shape of baffling disease? Who among these but would wish to see light where there is now darkness and to aid in the solutions that will mean health and happiness to others doomed otherwise to similar plights?

Why should not our "community" churches, within their own parishes, organize giving to research projects bearing upon their own district problems?

Looking Ahead on the Problem of Feeble-Mindedness

George Russell, perhaps better known in the literary and economic worlds as A. E., has made some searching comments upon the present social and political drift which, if true, should hearten us with respect to some difficult and apparently insoluble medical problems, even though disagreeable from certain aspects. Russell himself has not attempted to point out just how the new order will react in particular instances, medical or otherwise, but it seems to us that the inevitable reactions are obvious enough, granting the correctness of his views.

Thus he believes that we are going to have our free individualism tempered by a more autocratic action by the State. A paradoxical outcome of the war will be that the enemies shall have been extraordinarily impressed in the shock of conflict, and will exchange to some extent their characteristics. What we condemned in others will in a degree be the measure which shall be meted out to us.

The coming solidarity is the domination of the State. A highly organized State will impose a discipline on its subjects that will make possible many things not attainable in a loosely unified system. Among these things may well be a practical and decent solution of the problem of feeble-mindedness.

The colonization of the feeble-minded has always appealed to us as the nearest practicable solution, yet we have always realized that from certain aspects what have been considered feasible plans have lacked something, because we have felt in a vague way that the concessions required by convention and tradition have hampered rational handling of the problem.

We have been much influenced in our measures by the fear of seeing the feeble-minded species propagate itself. But we fancy, and here we come to the crux of our argument *á la* Russell, that the State that is destined to make individuals realize that there is something greater than themselves, thereby ennobling them, will force a collective treatment of the feeble-minded that will mean a humane socialization of the colonies, doubtless proceeding along with the general socialization of peoples.

Why should not the feeble-minded live in a world of their own, propagating their own kind, and realiz-

ing, so far as possible, the benefits that might come into their lives? Now they live in the world of highly intelligent beings, like so many gnomes and hobgoblins, a world into which they do not fit, a world which even plans and to some extent secures their extinction. In this strange world, nevertheless, they manage to pollute to a measurable degree the germ-plasm of normal beings about as often as they contrive mating with their own kind, and yet the logic of the situation is not apparent to those who would end what seems to be a practical joke of the gods.

If we colonize the feeble-minded at all, why not permit the sexes to live together for the very purpose of propagating the species and developing their community life, instead of vitiating the stream of our common life? In these circumstances they would be happy and of great service to their normal fellows.

Industrial and other work of a character not suitable for normal beings could be performed by the colonies, and to some extent they might serve military purposes.

With regard to the latter suggestion there is food for thought in the revelations of the draft examinations. It has been revealed that the average mental age of those who served their country in the recent war was a trifle over thirteen years. Two hundred and fifty expert psychologists examined nearly four million of our draftees, with a view to determining their *composite* brain power, not by academic standards, but by tests of speed of apprehension, judgment, etc. They reached the conclusion that the child type of mind prevailed in the army, so it may be said that we have already been well served in a military way by large numbers of defectives. Therefore there is nothing radical in our suggestion as to further and intensive use of such material for military purposes.

Being Anglo-Saxons, ethical theories need not be permitted to hamper us unduly in this matter, for example, of drafting and training defectives to fight our battles for us. In the face of hard facts it is not in our racial nature to be baffled practically by abstractions. However, there are those among us whose training fits them especially to justify spiritually that which seemingly conflicts with conscience and right, and we may safely leave a delicate phase of our subject with them.

With the general forward progress of normal society there will come a time when certain problems of labor will be insoluble unless great numbers of defectives are available for types of service against which the higher orders of mankind naturally revolt.

Under the dominating State all feeble-minded individuals, upon detection, would find themselves automatically drafted into the colonies. In that day there would be no sentimentalists to object, for sentimentalism would, as it should, convict one as a defective.

By these means the main stream of human life would be purified, while at the same time useful results would accrue and a miserable class be redeemed in so far as redemption for them is possible.

The State of the future, says Russell, will be one in which there will be essential freedom combined with an organic unity. Freedom for the feeble-minded we conceive to be a decent community life of directed service and sanctioned sex relationships. The feeble-minded are part of humanity, and organic union with this part should take the form herewith suggested. The prevailing union with this part possesses anything but spiritual connotations.

The efficiency of the highly organized State is quite obvious and governments discreetly imitate each other in policy where it conduces to rational ends. Thus Germany finds itself without a Cæsar, but with a social democracy, while we shall tend more and more to be dominated by the idea that the individual exists for the State, which itself must direct collective life and power. Our old policy of checks and balances, however, will still continue to provide corrective oscillations.

"At the last analysis are not all empires, nationalities and movements spiritual in their origin, beginning with desires of the soul and externalizing themselves in immense manifestations of energy in which the original will is often submerged and lost sight of? If in their inception national ideals are spiritual, their final object must also be spiritual, perhaps to make man a yet freer agent, but acting out of a continual consciousness of his unity with humanity."

Along with other applied ideals of the new order let us do justice to the feeble-minded, themselves incapable of self-determination.

Overstrained Casuistry.

The recent death of Dr. H. J. Haiselden, of Chicago, who won fame by letting defective babies die who could not live in any case, is chronicled in the press.

The hullaballoo over the doctor's cases seemed inexplicable to thoughtful members of the profession at the time, since the uproar was manifestly a case of much ado over nothing. We do not believe that any violence has ever been done to ethics in such circumstances. In the very nature of the case no harm could be done.

The yellow "medical" press which exploited the Haiselden affair and also jeopardized Dr. Haiselden's standing by playing him up personally in public, won the sincere contempt of the profession.

"Getting at the Cause of Poverty, Crime and Sickness"

The New York State Board of Charities in its fifty-second annual report shows that a total of $38,000,000 annually is being spent for maintenance alone. The report pleads for a reduction of these expenditures by "getting at the cause of poverty, crime and sickness." A number of palliative recommendations are made, among them health insurance. Since 78 per cent. of poverty in the State is due to sickness, there is an annual loss to the bread winners of $500,000,000.

Since it has been indubitably shown that health insurance does not prevent sickness, the Board's well meaning attempt to grapple with present problems is not very impressive.

The people who believe in health insurance, and in charity, also believe in cheap labor and the wage system. All these things, of course, go together.

The old struggle between decency and deodorization goes on. Meanwhile the charnel houses are glutted and there is wonder at the social unrest.

Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

Exit Alcohol: Enter Dope.

As John Barleycorn passes from the scene an ever-increasing army of drug addicts enters the field. More than a million people in the United States are addicted to the use of either opium, cocaine or heroin, according to the special report recently made to the Bureau of Internal Revenue.

Only about 25 per cent. of the 150,000 ounces of cocaine imported in the form of coca leaves represents legitimate use.

The annual per capita consumption of opium in the United States is 36 grains (470,000 pounds) on the face of the report, but since there is a smugglers' trade in narcotic drugs, according to the committee, estimated to be equal to the legitimate traffic, it would be proper to assume that the actual consumption of opium by the people of the United States reaches 72 grains per capita (or 940,000 pounds).

The committee finds it to be the consensus of opinion among those interested in the subject of narcotism that the number of drug addicts will increase as soon as the prohibition laws are enforced, since drinkers will seek a substitute for alcohol, and the opiates will be found most satisfactory for this purpose. This opinion the committee believes to be apparently supported by investigations made in some of the Southern States, where prohibition has been in effect for some years.

Increased addiction to cocaine may reasonably be expected, as well.

The annual per capita consumption of opium in the United States is 36 grains already, as against 2 grains in Germany, 3 grains in France, 1 grain in Italy, 2½ grains in Portugal, 3½ grains in Holland, and less than three-fifths of a grain in Austria. What may be expected as a result of the withdrawal of alcohol from the people? The outlook is one alarming indeed to everybody but the fanatical advocates of a dry nation. Possibly they may say: What difference does it make what narcotic is used by addicted masses, so long as they are addicted? But in that case what have they accomplished? For our part we believe that the demoralization to be wrought by cocaine and opium will be vastly greater and more sickening than that brought about hertofore by alcohol, with no mitigating aspect.

It has been argued, by the way, and with reason, that since it is now a public obligation to furnish morphine to those who crave it, it will be no less a public obligation very soon to furnish alcohol to those really requiring it. In the former case we give succor to those who offend against statute law; why, then, should we not aid the citizen who has gotten into a physical plight through patronizing in the past places licensed by the Government?

In acute primary anemia, transfusion is of no considerable value. In chronic primary anemia it does not cure but prolongs life. It offers as much to the patient alone as splenectomy with or without transfusion. Splenectomy cases later require transfusion; furthermore they do not respond as well to transfusion as do cases not splenectomized. Care should be taken in the amount of blood given for pernicious anemia, for too much blood may cause plethora and an aplastic state rather than stimulation of the red cell production—(*Kimpton.*)

A Saving people make a safe Government. Buy W. S. S.

Correspondence

The Campaign Against Venereal Diseases.

To the Editor of THE MEDICAL TIMES:

The campaign against venereal diseses with the professional schools, hospitals, societies and associations,—national, interstate, state, county, and municipal,—has just been begun by a letter addressed to the deans of the medical and allied colleges of the country.

For your coöperation in bringing to the attention of the medical and allied professions of the country this campaign inaugurated in the medical and allied colleges of the country, for the extension of teaching on this subject, and the better qualification of the physician, as a specialist in the treatment of venereal diseases, the United States Public Health Service respectfully requests that you publish this letter which follows:

The campaign for the control of venereal diseases in the United State by the Public Health Service makes it necessary for the medical, dental, and pharmaceutical schools, the hospitals, clinics, and the training schools for nurses, to coöperate to the utmost.

How may this be accomplished?

I. By calling a convocation of faculty, staff, and student body, at which:

(A.) The dean will preside, state the object of the meeting, (viz., to indorse the propaganda undertaken by the U. S. Public Health Service, by direction, and under the authority, of Congress) and to appoint proper committees to put into effect the recommendations made by the chosen speakers, as to changes in curricula, etc.

(B.) Selected speakers will deliver addresses on:

1. The sanitary attack upon the venereal diseases.
2. The better teaching of venereal diseases in schools, clinics, and hospitals.
3. The place of venereal diseases in our medical, dental, and pharmaceutical schools, in our hospitals, in our clinics, and in our training schools for nurses.
4. The importance of a proper knowledge of venereal diseases, not only to physicians, but also to dentists, druggists, and nurses; further, to college physical directors.

II. By giving exhibitions to faculty, staff, students, and nurses, of the official Public Health Service educational six-reel photo-drama films:

(A.) "Fit to Win" for men, which will be furnished free on application to your State Board of Health, or to this Bureau.

(B.) "The End of the Road" for girls and women, which will be furnished free on application to the Boards of Health in the states of Connecticut, Illinois, Louisiana, and Virginia, or which may be had under pay arrangement from Mr. Isaac Silverman, Room 211, 1493 Broadway, New York City.

III. By arranging meetings to be addressed by:

(A.) The president of the State Board of Health on the activities within the state, either by the state alone, or by the state in coöperation with the Public Health Service; the subjects explained being medical (the establishing of clinics), educational, legislative, social, law-enforcement.

(B.) By the local, municipal, or county health officer, who will detail the local activities on the same subjects.

(C.) By the Public Health Service representative appointed to your state to work in coöperation with your State Boad of Health, who will speak on the same activities, especially the establishment, organization, and general policy of the free clinics for the treatment of venereal diseases.

(D.) By the U. S. Public Health Surgeons in charge of the clinics already established in your state, who will explain about location, staff, equipment, laboratory, treatment, records, etc.

IV. By complete, permanent Exhibits of official literature issued by:

(A.) The U. S. Public Health Service:

1. Medical: Reprints from U. S. Public Health Reports.
2. Educational: Miscellaneous publications issued by the Division of Venereal Diseases.

Public Health Service literature will be furnished free for distribution to faculty, staff, student body, and nurses, on individual application to the Surgean General, indicating list and quantity desired.

(B.) State Boards of Health:

These publications are generally miscellaneous and may be had free on application to the State Board. Some states issue a weekly or monthly bulletin.

In view of the foregoing exposition, what coöperation may the Public Health Service expect from your institution?

RUPERT BLUE,
Surgeon General.

Diagnosis and Treatment

Prophylactic Treatment of Constipation in Children.

Vynne Borland, M. B., Ch. B., B.Sc. Glasg., D. P. H., believes in this method: In the prevention of constipation, satisfactory hygiene in the homes of paramount importance. Too often a child is given a purge without any inquiry into the home conditions or as to how it is cared for, with the result that its bowels are only temporarily relieved. The child should have abundant fresh air and sunlight during the day and should sleep alone in a fresh airy room protected from draughts. No fire is necessary. The position of the child in the cot should be changed at intervals. The child will be healthier, and consequently the bowel will share the benefit in tone given to the whole system.

Exercise should play a prominent part in the daily routine. Regular periods should be reserved for this, the time and amount being regulated according to the child's age. At first freedom in kicking its legs about at intervals during the day is sufficient, and as age advances it should be allowed to crawl about in a little pen.

The importance of cultivating regular habits as early as possible cannot be exaggerated. Feeding times should be at definite hours, the child being wakened if necessary. The longer the interval between the feeds the better. Almost any child can begin right away with 3-hourly feeds, receiving six feeds per day. Others do well on 3½- or 4-hourly feeds, receiving five feeds per day. The writer has found that in a large number of cases even four feeds per day, with 4-hourly intervals, produce satisfactory results. But the essential point is that, whatever periods are chosen, strict regularity must be adhered to, and in no case should the child be fed during the night.

The bowels tend to move more readily after a feed, and advantage of this should be taken by training the child into the habit of a morning stool after the bath feed. This can, in the majority of cases, be accomplished by about the end of the second month. The bath should be given at the same time every morning, and if there is any tendency to constipation the abdomen should be massaged gently with some warm oil—to facilitate rubbing—over the tract of the colon, commencing in the right groin and ending the left. After the feed the child should be held over a small pot, and if this stimulus is insufficient the anus should be lightly tickled with the finger. This acts as a suggestion that somethig is required.

Some help to peristalsis may be required in some cases to begin with. A dose of syrup of figs, or other mild lexative, given at night is usually effective. If a lubricant is required the best is liquid paraffin. Olive oil is not satisfactory, since a large proportion is absorbed. Whatever is employed the dose should be gradually decreased each night. If the bowels have not moved in the preceding 24 hours, a warm normal saline enema, 1 drachm to an ounce, is best; this increases the tone in the bowel. Large enemas should not be given, as these tend to produce distension and loss of tone. If soap is used, either as an enema or as a suppository, only a mild superfatted soap should be employed, as ordinary soap is liable to set up catarrh and proctitis, and consequently constipation. Either method should not be pushed for any length of time, otherwise actual constipation will result owing to impairment of the normal rectal reflex.

A warning should be given about that unnecessary evil, the binder. Most mothers cannot explain why it is used. They imagine that it is proper thing to do, as all the babies they have ever seen wear one. A few have the idea that it supports the child's back when, as a matter of fact, it prevents the proper development of the muscles of the back and abdomen. When it is properly applied and stays in its intended position—i.e., round the abdomen—it acts as a constricting barrier to the bowel contents. When fixed loosely, as it usually is, it slips up the body and prevents proper development of the chest. The binder should not be used after the navel has healed, but should be replaced by a woolly vest.

The expectant mother should be taught the importance of regulating her bowels and carrying out necessary treatment throughout the nursing period. It is practically hopeless to treat a constipated baby by purging the mother, but if she avoids constipation both during pregnancy and after paturition it will be of advantage to the child. All abdominal constriction should be avoided. If the habit of stooling after breakfast has not been practised, attempts should be made to develop it. A glass of hot water half an hour before breakfast, made more palatable by adding a pinch of salt, often acts beneficially. Fresh vegetables should be taken freely. If this is not sufficient small doses of senna at night are good. A favorite form is the infusion from the pods, or some mothers prefer to chew one or two pods. It is more satisfactory to take small doses every night, thus ensuring the morning stool, than to take larger doses once or twice a week. Many expectant mothers take regular weekly doses of castor oil, not only to keep their bowels regular, but occasionally from a mistaken belief that it confers an easy labor. Needless to say, they become more and more constipated.

Castor oil is first favorite as a purge in children. One is frequently told with pride by the mother that baby's bowels are regular as she gives it a dose of castor oil every week. The first fault is made in some cases almost as soon as the child is born. A dose of castor oil is given to clear out the meconium, and the mildly stimulating effect of the colostrum is lost, since the bowel is already tired out. This, unfortunately, is the starting point in a great many cases of constipation in children, for if the child's bowels do not act well the mother immediately repeats the dose. When a constipated baby is brought to the clinic one almost invariably finds that one or more doses of castor oil have been given. A safe rule to adopt is: «Never give castor oil unless there is diarrhea.

The quality and quantity of the food require great attention. It is not sufficient that the child gains from 4 to 7 ounces per week, but inquiries should always be made as to the character of the stools. Underfeeding in breast-fed babies is comparatively frequent. This is evidenced in the character of the stool which is small and insufficient. Besides studying the progress in weight the best guide is the test-feed. The baby should be weighed before and after a feed and, if the quantity is too little, there should be no hesitation in supplementing the feeds with artificial feeding. It is much better to give small quantities of milk after each feed than to replace one or two feeds by a bottle-feed. In this way the natural stimulus of sucking is not interfered with.

Insufficient fat is liable to produce constipation. This occurs more particularly in cases where cows' milk is too freely diluted. For the first few weeks the child can only with difficulty digest fats other than that of breast-milk. Small amounts in the form of cream, an emulsion, or a compound like virol should be cautiously added. As the feeds are made stronger the tendency to constipation passes off. Too much fat is to be avoided, and if the stools become pasty and greasy the quantity should be reduced or even temporarily stopped. If it should be a case of faulty fat digestion some pancreatic extract should be given.

When curds appear in the stool these should be examined to find if they are really composed of undigested milk, as very frequently they consist of small rolls of dried mucus from an insufficiently lubricated bowel. If found to be the former, humanised milk or citrated milk should be given; if the latter, an emulsion of liquid paraffin should be employed as a lubricant.

In bottle-fed babies, as in breast-fed, the appropriate quantity of feed should be regulated according to the weight-chart and the amount of the stool. If the gain does not amount to at least 4 ounces in week and the stool is too small an increase in the feed is required.

Overfeeding must be guarded against. If a child assimilates its food well, care should be taken that the amount of feed is not too much. The weight-curve will show too great an increase, and although the child may remain in perfectly good condition for some weeks, if diarrhea does not supervene before, the stools will become too copious, light-colored, greasy, and lumpy. If this occurs the condition very often corrects itself by keeping to the same quantity of feed for the following week or so.

Insufficient water is harmful. If the stools become too dry the feed should be further diluted, or the child may be given sips of water between feeds when awake. It is important that the water should first be boiled, as if there is a high degree of temporary hardness it will tend to produce constipation instead of preventing it. The addition of a little fruit juice daily is often of great benefit. Too much water is to be avoided, as with the continued passage of watery stools the bowel in time becomes lazy and will only respond with difficulty when it really has to work. A similar condition results after an attack of

acute diarrhea. It should be remembered that the secretions have become greatly dried up and the musculature of the bowel wall so enfeebled that great care is required in order to avoid chronic mucous colitis or chronic constipation. The tone of the bowel wall should be gradually restored. If simple hygienic measures as outlined do not suffice a bowel tonic should be given, such as a mixture of cascara, nux vomica, and liquid paraffin. Drugs to increase secretion should be used with great care, for if there is an tendency to chronic mucous colitis the condition may be aggravated.

All mothers should be warned of the danger of the indiscriminate use of soap suppositories. Too often this temporary remedy is resorted to, with the result that after a time the bowels will not move without this stimulus. The normal stimulus of the rectal reflex is the presence of feces in the rectum, and if soap suppositories are given indefinitely the natural stimulus has no effect.

The prevention of constipation in mentally deficients, cretins, and infantilism is greatly dependent on the early diagnosis of the case. Simple hygienic measures, though helpful, will in all probability be insufficient alone. The early administration of thyroid extract in most cases acts beneficially.—(*Lancet*, March 22, 1919.)

Injections of Saccharose.

L. Monaco, the head of the Institute of Physiological Chemistry in Rome, has been observing for the last ten years the effect of sugar upon the secretions, lacteal, salivary, gastric, and the rest. Injections of large doses lessen these secretions, while small doses increase them. Sammartino has shown, too, that injections of sugar have an effect upon the coagulation of the blood. Lorentino has observed their effect in heart disease and in internal hemorrhage. Other observers have reported results in cholera and inanition, in the treatment of wounds, in the treatment of gonorrhea, cystitis, and in pulmonary affections. In the latter, these injections lessen the bronchial secretion, and are of effect in bronchiectasis as well as in cavities in the lung. A daily injection is given intra-muscularly of 2.5 g. dissolved in 5 g. of water. This is painless, and may be continued for several days without giving rise to any trouble. The decreased amount of secretion improves the state of cavities, whilst there are less cough and less night sweats.

Lucherini has made special observations on the action of sugar in tuberculosis. His conclusions may be summed up thus. Intra-muscular injections of 5 cc. are quite painless. There is a gradual diminution in the amount of the bronchial secretion. No alteration is brought about in the foci. There is no effect on the temperature-curve. There is less cough and less sweating at night. Anaphylaxis need not be feared.—(*Journ. des Praticiens*, August, 1918).

The Therapy of Ulcer.

In the consideration of the treatment of gastric ulcer, the findings of Rehfuss of Philadelphia, must be adjusted with newer conceptions of normal and pathological gastric physiology. Clearly a definite etiology would do much to furnishing a rational therapy. In the absence of this, we are reduced to certain factors which appear to be indicated in the rational handling of the disease. These factors may be classified as follows:

1. *Etiological*: But one outstanding point lends itself to treatment—namely, the question of infection. While infection in all probability accounts for a certain number of cases, there are many in which no evidence of infection can be found. In all cases, however, it is wise to culture the tonsils, post-nasal space, any pyorrheal teeth, and I have made a point to culture the bile. From these an autogenous vaccine is prepared. For that purpose, any streptococci, staphylococci, and from the bile culture the colon bacillus are isolated and cultures prepared. How valuable such a procedure is, Rehfuss is not prepared to state, but in the last year and one-half he has cultured all these cases and administered either a mixed autogenous vaccine or a stock vaccine containing the organisms of the type which were found. He believes that he has obtained better results. One point is certain: many annoying symptoms which would have otherwise persisted, and frequently very interesting changes in the general condition, have resulted.

2. *Physiological*: The three things which ulcer seems to do to the stomach are: (a) produce a rupture in the normal physiological sequence of the "digestive" and "interdigestive" phases; (b) excite vagus tonus, hypersecretion and spasm; (c) eventually induce a vicious cycle in the stomach which must be effectively combated before we have present the natural factors for healing. A study of normal gastric physiology *reveals the fact that undoubtedly the best condition for gastric healing would be a prolongation of the "interdigestive" period.* During that period total and free acid are at a minimum, tryptic regurgitation and intestinal reflex are at their height, peristalsis ceases and active peristole results in an approximation of the gastric walls and an approximation of the edges of the ulcer. Therefore, anything which increases either the acidity of the secretion or the quantity, the duration and intensity of the peristaltic waves, or the amount of gastric work, is to be combated. These indications therefore call for (a) a prolongation of the "interdigestive" phase; (b) the ingestion of food which produces the least amount of acidity, the least amount of secretion, and finally the smallest amount of mechanical work (peristalsis on the part of the stomach); (c) the effectual reduction of vagotonic symptoms (spasm, hypersecretion, hyperperistalsis) by antispasmodics and nerve sedatives; (d) finally in totally ruptured gastric equilibrium, such as is seen in stenosis, the use of lavage or any method destined to prevent the unusual delay of food and other stimulating substances in the stomach.

Unquestionably the first purpose—namely, the prolongation of the "interdigestive" phase is only accomplished by starvation. We have pointed this out in the section on hunger secretion, but it is distinctly lower in acidity than the active secretion and is furthermore usually higher in trypsin content. If it be true that pepsin and trypsin neutralize each other, the value of such a combination is evident. In any event, the value of this starvation is unquestioned. It is a foregone conclusion only in those cases of true mechanical block due to cicatricial stenosis in which, whether there be food in the stomach or not, large amounts of secretion are found in the stomach (such cases call for mechanical correction or operation, and are not to be included in this group). After this starvation period, however, the prolongation of the "interdigestive" period can only be accomplished in one of two ways: (a) the so-called Yarotschy treatment of two feedings of egg and butter a day with long intervals of rest, or (b) artificially by frequent feedings and complete neutralization of all secretion resulting in an artificial rest so far as acidity is concerned. This latter question is an extremely important one, and is by no means settled. It would seem that feeding every hour or two hours with liquid nourishment, as is the case in so many of the ulcer crues, was decidedly defeating the very purpose of the cure and would result in glandular fatigue or even irritation with hypersecretion. Far more important and ideal is the question of the introduction of non-stimulating food into the stomach. In his studies covering many food stuffs. he has found that, as a group, the protein foods, such as meat, fish, milk were capable of inducing the highest acidities and that cereals, vegetables, and fruit were capable of inducing the lowest acidities. The reason is plain; the protein foods are pre-eminently those which must be submitted to gastric digestion, while the carbohydrate foods are those which are submitted to intestinal digestion. Fats, in spite of a special form of ulcer cure, do cause a perceptible appearance of gastric secretion. This Rehfuss was able to demonstrate both with olive oil and butter. It, therefore, seems rational to follow as the correct diet for ulcer those foods which require a minimum of gastric work; and carbohydrates preeminently fulfil this requirement. The only objection to carbohydrates is the question of mechanical comminution. They necessitate a certain amount of antrum work which can be obviated by careful preparation. Carbohydrates cause the least secretion, and are evacuated most rapidly from the stomach.—(*Medicine and Surgery*, Vol. 2, No. 7, 1918).

Iron in Gleet.

Every genitourinary specialist whose good or bad luck it is to see the most obstinate cases, those which the general practitioner gives up in despair knowing that he can do nothing more with them, will admit that there are old gleety cases which are absolutely resistant to every sort of treatment. They laugh at the most ingenious combinations and injections and at all kinds of endoscopic applications.

In such cases, provided they are free from strictures, I have found the simple old-fashioned tincture of iron, tinctura ferri chloridi, U. S. P., of very great benefit. It is not only meliorative, but in many cases permanently curative. The dose to be given is from fifteen to thirty minims in water three times a day. It may be taken through a tube or followed by rinsing the mouth with Vichy water which neutralizes the excessive acid. Some take the tincture of iron in capsules. They provide for this a box of empty capsules and fill them with the required amount of drop each time they want to take a dose. Other iron preparations are also useful in this condition, but none possesses the specific astringent virtue that the tincture of iron does. It seems actually to "tone up" the urethral canal and its mucous membrane.—(*Critic & Guide.*)

Surgery

The Value of X-Rays in the Treatment of Malignant Disease of the Breast.

Claude Saberton, of Harrogate, divides this condition into three main groups: (1) Those sent for prohylactic treatment following operation, or (2) for treatment of recurrences, and (3) inoperable cases.

Patients for prophylactic treatment should be sent to the radiologist as soon as possible after operation. It is essential to administer large doses of x-rays, and the rays are measured after filtration through 2 or 3 mm. of aluminium. The scar area, axilla, supraclavicular and post-scapular areas should all be treated. With careful technique these doses can be repeated to the same skin areas once a fortnight. This method of cross fire enables a large quantity of rays to reach the mediastinum. The radiation is greatly facilitated by the introduction of the Coolidge tube. In ordinary cases the first course of treatment lasts about three months. A second shorter course is given after two or three months, and subsequent radiations are administered at gradually lengthening intervals. The patient is kept under observation for two or three years following the date of the operation. During this time it is important for the physician in charge of the case to administer blood tonics, such as iron, and give advice as to general habits of life, so that the patient's resisting powers may be built up. In some cases the administration of thyroid extract is advisable. Blood counts at intervals are a helpful guide, and last, but not least, stress is laid on the great help and importance of optimism. The patient needs all her powers and must be cheered and encouraged in the fight.

Local scar recurrences are rare, but if nodules appear they can with rare exceptions be controlled. The author has seen one or two cases in which there was a rapid spread of cutaneous nodules all over the body, probably due to a general infection of the lymphatic system of the skin. When this occurs patients usually succumb rapidly.

Slight enlargement of glands and thickening behind and above the clavicle are fairly common. We are able to prevent gross enlargement of these supraclavicular deposits, and they frequently disappear under vigorous raying. They never break down or ulcerate. The question arises whether these supraclavicular enlargements are recurrences following the operation, or due to inability to remove infected glands at the time of operation owing to their situation behind the clavicle. Certainly supraclavicular enlargements are much more frequent than axillary deposits. The author has never seen ulceration from the breaking down of secondary growths in cases that have had the benefit of an operation followed by intensive x-ray therapy. On the other hand, large foul fungating and ulcerated masses are frequently seen in patients not subjected to radiation.

We are frequently disappointed when all appears to be well, and there is no evidence of any local recurrence or mediastinal deposit, by patients complaining of lumbago or sciatica. It is curious how often one meets with recurrences in the lumbar spine; unfortunately at present all one can hope to do in these cases is to relieve or alleviate pain.

Swelling of the arm from lymphatic obstruction is occasionally a troublesome and distressing sequel of operations, and is most common where it has been necessary to remove a large area of skin. Owing to fixation of the tight cutaneous tissues to the thoratic wall, and the formation of taut bands of scar tissue running along the anterior fold of the axilla, the patient is from the first unable to abduct the arm. This condition materially interferes with the efficient radiation of the armpit. Usually the lymphatic obstruction of the arm gets progressively worse, and the limb sometimes reaches an enormous size. This complication is not so frequent as it was years ago, probably owing to different operative technique, and I have noticed it to be much less common in those cases in which the surgeon has carried the skin incision along the anterior fold of the axilla and not into the axilla.

The general conclusions arrived at from treatment of cases in this group are as follows:

1. The patients are less likely to have a recurrence of the disease than cases not so treated.
2. Local recurrence in the scar area is rare.
3. Supraclavicular deposits do occur, but can as a rule be controlled. These deposits never break down or ulcerate.
4. Mediastinal recurrence appears to be less frequent.
5. The general health of the patient is improved.

In view of these facts every case of scirrhus mammae should be subjected to efficient x-ray therapy as soon as possible after operation.

In slow-growing atrophic scirrhus mammae met with in patients about 50 years of age, cases with perhaps a history of ten to fifteen or more years, it is Saberton's experience that operation is not as a general rule advisable even though the growth may be showing signs of activity. He has seen a number of these cases after operation in which the general health has broken down, metastases have almost immediately occurred, and the patient has rapidly gone downhill. These results may be due to the removal of the old natural fibrous wall built around the tumor, and the lowered resistance of the patient following the operation. Unless the surgeon decides to employ electrothermic coagulation, as a general rule this type of growth is best left to the radiologist.

In the treatment of recurrences the question of further operative measures arises. The special circumstance of each case must be considered, but speaking generally, surgeons hesitate to operate upon secondary glandular deposits, and the patients are frequently referred to the radiologist. Much can be done to relieve pain and prevent ulceration by efficient treatment; indeed, in some cases, and frequently when least expected, brilliant results are achieved. Foul ulcerating surfaces heal up, large masses of glands disappear, and a symptomatic cure is obtained.

All inoperable cases should be given the chance of deriving benefit or amelioration of symptoms by X-ray or redium therapy, and frequently both methods are used. We can never tell beforehand to what extent a patient may respond to radiation. Very often what appear to be the most hopeless cases do best, and vice versa. When patients are already cachetic little can be done beyond giving them some relief from pain. Sometimes those taking morphin are enabled to give it up. The general health and resisting powers are, as in every other disease, all-important factors. An examination of the blood from time to time is a helpful guide in prognosis, and x-ray examinations of the thorax for secondary deposits should be made at intervals. Malignant growths are affected by radiation both directly and indirectly. Research has shown that cells in process of rapid division, lymphoid tissue, and the endothelium of the blood vessels are especially vulnerable to radiation. In addition to this direct local action, there is an indirect effect brought about through the reaction of the patient to the rays. In these inoperable cases inefficient treatment is worse than useless—it is dangerous, as small doses stimulate cell growth. The treatment must be pushed in massive doses to the limit, and in some instances beyond the limit, of skin endurance. An important guide, and one that it is necessary to watch carefully, is the amount of constitutional disturbance following this intensive therapy. Saberton has known patients to have a temperature of 102° or 103° for weeks following heavy treatment of this nature. In cases which ultimately succumb to the disease, the end frequently comes rapidly.

He draws attention to two rare conditions which arise as a result of radiation:

1. *Late X-Ray Reaction.*—He has seen three examples of this condition. The skin and subcutaneous tissue become very tough, and assume the appearance of wash-leather and finally slough. This late x-ray reaction has occurred only in an area that has had a more than usual heavy bombardment of the rays owing to the dangerous and threatening character of the disease. The curious point is that this reaction develops at a date some weeks or months after the patient has ceased treatment, and is quite different from the ordinary normal erythema or pigmentation following vigorous radiation. This late reaction is very painful and takes a long time to heal. Dr. Finzi called attention to the condition some years ago. In one of the three cases which have come within his experience a large secondary mass in the anterior axillary fold had been vigorously treated with heavily filtered rays. The skin, subcutaneous tissues, and the secondary deposits sloughed away. The disease appeared to be killed in this area, and the patient was in good general health when last seen.

2. *Anemia.*—He has noticed anemia develop in about half a dozen inoperable cases, in patients where intensive therapy has been given for a number of years. The primary growth remained quiescent or perhaps shrank, there was no evidence of secondary deposits, and no toxaemia resulting from the bility and heart failure. This anemia, may probably be of cancerous mass. Death apparently occurred from general de the same type as that which sometimes develops in x-ray operators. It is known that x-rays have a profound effect on the blood.

The general conclusions drawn from the treatment of a large number of inoperable growths are that the x-rays are

of undoubted therapeutic value. Life is frequently prolonged for years, and the growths are robbed of their most distressing features. Pain is relieved or alleviated, secondarily infected glands can be controlled and prevented from ulcerating—ulcerated surfaces usually heal up and foul discharge ceases. The primary growth often shrivels or remains *in statu quo*. Inoperable growths occasionally become operable. The mental comfort derived by the patient would alone justify the treatment. In some of these cases also surgeons might with advantage employ electrothermic coagulation. — (*Brit. Med Jour.*, Sept. 28, 1918).

A New Operation For Femoral Hernia.

J. W. Dowden, of Edinburgh, says the principle of his operation is the placing of a ball of fat or other tissue, bigger than the abdominal aspect of the femoral ring, and fixing the ball *in situ* the ligated sac of the hernia being displaced above the ball. The result of this is that the greater the intra-abdominal pressure, the more this ball is forced against the femoral ring, thus effectually closing it. All operations ligating the neck of the sac only, or displacing it upward, are liable to recurrence. Roux's operation of inserting a staple through the inguinal ligament (Poupart) and into the pubic bone, cannot always be carried out. Nicoll, of Glasgow, bored holes in the pubic bone, and approximated the inguinal ligament by a silk stitch, which passed through these holes as well as the inguinal ligament, in the shape of a mattress suture.

Baldwin's method and MacEwen's method most closely approach Dowden's. Both utilize the sac to form a buffer, and these are the soundest methods. Dowden's method is simply a more certain buffer, and even if this buffer is converted into fibrous tissue, it will be effectual.

An incision about 4 inches long is made, a little below and parallel to the inguinal ligament, with the center over the site of the hernia. The fatty coverings of the sac are exposed, and by gauze dissection and with scissors easily cleared up to the femoral ring. Not only should they be cleared to the ring, but with a blunt dissector or Mayo's scissors, cleared from the femoral ring as well. As a rule, by pulling on the fatty coverings and the sac, this can easily be done. The fatty coverings are often quite thick, as will be found on clipping through them in order to open the sac, which should now be done, and a careful search made for the adherent omentum or other structures. Redundant and adherent omentum if too large to replace, is litigated and cut off. This excised portion is carefully preserved, either in a corner of the wound or in warm normal saline solution.

The next stage of the operation is to revert to the skin and fascial incision. The upper margin of the incision is dissected still further upward, exposing the inguinal ligament and the aponeurosis of the external oblique for half an inch or more (depending on obesity) above the inguinal ligament. An incision is now made through the external oblique aponeurosis, about a quarter of an inch above the inguinal ligament, and extending from the pubic spine for one inch or more, upward and outward, parallel to the inguinal ligament. This incision opens the inguinal canal, and the cord or round ligament must be displaced inward. Forceps are placed on the edges of the external oblique aponeurosis, for the purpose of suturing at the termination of the operation.

The transversalis fascia is next incised through this incision, but care must be adopted not to carry the incision too far out, lest the inferior (deep) epigastric artery or its accompanying veins be injured. The extraperitoneal fat of varying density is now exposed, and the abdominal aspect of the femoral ring is sought. We leave this incision and pass to the lower.

The sac and its fatty coverings have been defined. By following the size of the femoral ring, it is judged whether the sac and its coverings can be pushed from the thigh to the abdominal side of the ring in its entirety, or two halves pushed up separately. Either grasping the sac with curved forceps from below and pushing the curved forceps through the ring with the sac, or else passing from above a pair of curved forceps and seizing the sac, does not matter very much, provided the sac and its coverings are displaced and pulled out through the upper incision. If the sac and coverings are too large, they should without any hesitation be cut off, and carefully kept as is the portion of omentum, to be utilized later. The remains of the sac are then easily displaced upward. If, for instance, the sac and its coverings have been brought out through the upper incision, the neck of the sac is transfixed with catgut on a needle, and firmly sutured. The ends of the ligated catgut are left long so as to identify the neck of the sac if required.

Now a ball valve is to be made. If the sac and its fatty coverings have been transferred to the abdominal aspect of the femoral ring, it is judged by the size of the ring, whether the bunched up sac and coverings will form a ball about half as big again as the abdominal opening of the ring. If so, a needle and catgut are utilized to stitch the sac across and about in various directions until a ball is formed, and the last stitch being through the part which will form the lower surface of the ball. These stitches should not be pulled too tightly, and the primary end and terminal end of catgut used should be left long. A pair of curved forceps or Cleveland needle is passed thigh. One of these free ends of catgut is now threaded on to a sharp needle and passed through, securing a good hold from the lower opening through the femoral ring to the abdominal aspect, and the two ends of this catgut stitch left from forming the ball are grasped and withdrawn on to the of the pectineal fascia. The needle is now removed and the two ends of catgut which have passed through the femoral ring are knotted firmly together. This is done with the object of snugly pulling the ball valve down on the abdominal aspect of the femoral ring. The ends of catgut on the neck of the sac are now cut off, and the transversalis fascia and external oblique aponeurosis sutured. An appendix inverter or pair of fine dissecting forceps may be required to push the ball valve out of the line of this suture.

If this sac does not form a satisfactory ball, or if the sac has had to be cut away to enable the transposition of the hernial neck to the abdominal side of the ring, excised omentum or sac coverings can be utilized separately to form a sufficiently large ball. If these are insufficient, it is usually possible to obtain as much fatty tissue as is necessary from the abdominal wall or from the thigh. The deep layers of the incision are now sewed together, and the skin wound approximated.

When dealing with a strangulated femoral hernia, the incision above the inguinal ligament is of great help, because not only does it enable the surgeon more easily to reduce the hernia, but also allows free inspection of the constricted area of intestine. The sac having been opened and the condition of the gut considered, the second incision carried out above the inguinal ligament is then made. The peritoneum is opened and the entering portions of intestine are drawn out through the upper wound, and by means of gentle traction of first one portion and then the other, associated with gentle taxis of the obstructed intestine in the sac below the ligament, is followed usually by an easy reduction, and the coil can then be drawn out of the upper incision and examined in its entirety. The radical operation as described can then be carried out in the majority of cases. There is more difficulty in operating on hernias recurring from other methods, as the sac is adherent to the femoral ring.

(*S. G. & O. No.* 9, 1918).

Radium in Cancer of the Lip.

Janeway reports on the treatment of 24 cases at the Memorial Hospital, New York. Of these, 8 were superficial early lesions and 16 were well-established cancer, with deep invasion of the tissues of the lip. With the exception of 3 cases now under treatment, and at present doing well, but who had advanced lesions when they applied for treatment, the patients have all been well and are free from evidence of disease. The technic employed by Janeway was as follows: He applies radium emanations embedded in molds of the dental compound and filtered through the thinnest material for the most superficial lesions. As a matter of convenience we have used 0.5 mm. of silver uniformity for all but the lesions with deep infiltration. While 0.5 mm. of silver has been unnecessarily heavy for the most superficial lesions, it has given uniformly satisfactory results in our cases. For the deeper lesions, however, nothing has surpassed the progressive, smooth and complete retrogression produced by filtration through 1 mm. of platinum. The tubes should be sunk 5 mm. in the dental compound, and for the ordinary lesion the dose should be 60 mc. hours per square centimeter, when the filtration is through 0.5 mm. of silver, and 100 mc. hours per square centimeter when through 1 mm. of platinum.—(*Progressive Medicine*, March, 1919.)

Toward the climacteric period there are two forms of menorrhagia; one with a large uterus, and no other evident pathology; the other shows a polypoid gland hypertrophy of the endometrium. Lacerated cervix and erosions also cause bloody discharge. At this time cancer should always be thought of, though no age is cancer-proof. After the menopause, all bleeding should be considered with the greatest suspicion. It ought to be taken for granted that bleeding in a woman over seventy years indicates cancer of the fundus of the uterus. Forty-five per cent of women bleeding after the menopause have cancer.—(*Pemberton.*)

Genito-Urinary Surgery

Treatment of Acute Gonorrhea: Massage-Pack Method.

Maj. J. P. Fogarty, of the Australian A.M.C., describes the massage-pack method of early treatment of gonorrhea. His original object in devising the method was to put into practice a theory that the speediest and the best curative results would be obtained by dressing and draining the infected portion of the urethra, by the application of an antigonococcal chemical to the infected surface, and by preventing the spread of the mischief.

To attain these objects the basis of the treatment consists in packing the anterior portion of the urethra with a material soaked in silver solution. The pack not only absorbs the discharge and drains the infected part, but, by mechanically dilating the urethra, it enhances the prospects of the chemical reaching the site of infection, and prevents apposition between infected and non-infected surfaces.

For packing soft gauze is far superior to cotton. It is more absorbent, less irritating, and more easily passed into and withdrawn from the urethra; it has no tendency to break, and shreds are not detached from it.

In the large majority of cases argyrol has been used for preference, but during periods of shortage silver vitelline has been tried with equally successful if not quite as speedy results.

From a curative point of view an argyrol solution stronger than 5 per cent is not necessary, and 7 per cent and 10 per cent show a tendency to cause soreness, necessitating less frequent packing, thus depriving the case of the benefit of the mechanical advantages of the pack.

He has found hemorrhage even with 10 per cent a rare occurrence, and not in one single instance with 5 per cent.

The patient having passed water, and the glans penis and prepuce having been well washed with 1 in 8,000 solution of potassium permanganate, a probe is introduced into the urethra to determine its general direction and whether there is any narrowing or other obstruction.

A strip of soft open woven gauze is cut half to three-quarters of an inch in width and about seven inches in length. The width of the strip should vary with the size of the meatus, and with experience and practice can be estimated accurately. Having rolled the strip into a cylinder and well soaked it in 5 per cent argyrol, one end is folded over the extremity of a probe and passed up the urethra until resisted at the bend. Thus the whole anterior urethra will be packed. The excess of the pack may be cut off at the meatus.

The procedure is facilitated by opening the meatus with the tips of the thumb and index finger of the hand holding the penis, and by balancing the free end of the strip on the little finger of the hand holding the probe. If the penis be slightly tilted upwards and the strip well balanced the loss of argyrol by dripping will be obviated. There is no danger of injury to the urethra if a moderately large probe with a good bulbous extremity be used.

Having packed the anterior portion of the urethra, the penis is then gently massaged for five minutes, all the movements being made towards the root of the penis.

The pack is then withdrawn, the meatus, in so doing, being gently compressed between the finger and thumb in order to leave behind in the urethra as much argyrol as possible.

A second pack is then introduced in the same manner as the first and retained for four hours, or, if the patient does not require to pass water, even longer. While the pack is being retained for four or more hours there is no tendency for the discharge to trickle outwards along its side, and on withdrawal there is no evidence, such as a flow of pus, to suggest an accumulation of discharge behind the pack. On the other hand, on withdrawal, the pack will have lost most of its argyrol color, and pus, especially in cases with copious discharge, may be easily squeezed from it.

The number of packs given in the day's treatment will be guided by the condition of the case, but as a general rule the pack is indicated with a purulent discharge or with acute subjective symptoms, such as scalding, even before the purulent stage is reached. The majority of his cases have responded to two packs a day (morning and evening), but when necessary, as in a number of cases, he has found three packs in one day easily tolerable.

The pack is rarely necessary after the fourth morning of treatment. As soon as the discharge, observed before passing water in the morning, ceases or becomes non-purulent (clear watery) the pack should be discontinued and treatment confined to gentle irrigation with 1 in 5,000 potassium permanganate three times a day.

Between the dates March 1st and December 31st, 1918, Fogarty applied the treatment to 742 cases of acute gonorrhea. Of these the number "*not* cured" and evacuated to a venereal hospital on or before the eighth day of treatment according to orders was only 13, comprised as follows:

Uncomplicated failure	7
Complicated (bubo 1, epididymitis 5)	6

Up to early September, with 498 cases, cure was determined by the absence of subjective symptoms combined with a dry urethra or merely a clear watery secretion observed on massage and expression in the early morning before the patient had passed water.

Since that date the decision on physical signs as to cure of the remaining 244 cases has been supported by the microscope. Unfortunately, owing to the difficulty in obtaining counterstain, only the smears relative to 184 of the cases were stained by Gram's method. Smears of all these 184 cases were taken before water was passed on the mornings after the first, the third and the fifth day of treatment, with the following results:

Number in which Gonococci were Found.	
In smear taken on morning after the first day..	148
In smear taken on morning after the third day.	23
In smear taken on morning after the fifth day..	1

(This case was considered a failure, and is included in the 7 uncomplicated failures mentioned above as having been evacuated to venereal hospital.)

Further, with this series of cases confirmed by the microscope, advantage was taken of an order to the effect that men cured of gonorrhea would be retained in the dépôt for an observation period of nine days after cure. All 183 cases were examined and smears taken on the third, the sixth, and the ninth days of this period, and in no single instance was a return of the physical signs observed or were gonococci found. Apart from the encouraging results, only seven uncomplicated failures in 742 cases (183 out of 184 proved by at least four negative smears in each case), the method has in addition the following advantages:

1. The ease and simplicity with which it can be carried out.
2. It is comfortable and soothing to the patient, alleviating the sensation of wanting to pass water, and there is much less tendency to painful erections which characterize the condition under irrigation methods.
3. It reduces irrigation and syringing during the acute purulent stage to a minimum, and thus lessens the risk of driving the infection into the posterior urethra or further.
4. It does away with the leakage of the discharge at the meatus and thus obviates the possibility of troublesome balanitis. This condition did not occur once in my series of cases.
5. On withdrawal a definite pattern on the pack or the adherence of mucus or shreds will often indicate local areas of disease.
6. It has an economic advantage over other methods, much less silver solution being required.

Fogarty is of opinion that by specially designed speculum or introducer, infection of the posterior urethra could be treated to advantage in similar manner.—(*Brit. Med. Jour.*, March 1, 1919.)

Enuresis.

Enuresis is one of the most trying conditions that come within the domain of the general practitioner. In many cases, local conditions will be found upon careful examination, it need hardly be said that a thorough examination should be made in every case. Almost every year in reviewing literature, I find that some enthusiastic practitioner has affected a cure by circumcision. There are two answers to be made to this proposition. The first is that there is a large psychological element in every case, and a severe and radical operation produces a psychological result. But it is important to remember that little girls are more subject to the condition than little boys. Hence, if we pin our faith to circumcision we shall be able to reach but a small proportion of our little patients suffering from this unfortunate malady.